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**Commonwealth of Massachusetts**  
**Accountability Report For**  
**Vocational Education**

**Fiscal Year 1985**

GOVERNMENT DOCUMENT  
COLLECTION

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## I. INTRODUCTION

The Massachusetts State Department of Education presents this Annual Accountability Report for Vocational Education for fiscal year 1985. The purpose of this document is twofold. First, this report is submitted in compliance with the requirement of Public Law 94-482 that any state receiving federal funds must submit an annual accountability report for each fiscal year included in the Five Year State Plan. Second, this report serves as an informational document for interested citizens about the nature of vocational education in the Commonwealth and the ways in which progress has been made in achieving the state goals for vocational education. This report covers the time period between July 1, 1984 and June 30, 1985 and includes a mix of numerical data (such as financial expenditures, enrollments, student placement rates) and narrative descriptions of programs and activities.

The Massachusetts Board of Education has a longstanding and ongoing commitment to the preparation of youth for employment. This commitment is most recently reflected in its adoption in December, 1983 of the final report of the Task Force on Public School Youth, Education and Employment and its subsequent directive to the State Department of Education to prepare a comprehensive policy on education for employment that incorporates the recommendations of the Task Force. The Massachusetts Department of Education's Policy Statement on Youth, Education and Employment states:

"It is the responsibility of public education to offer educational programs and services which provide students with the fundamental preparation for employment. Such programs and services are considered to be an integral part of the regular school curriculum, and must be made available to all youth regardless of race, ethnic background, gender or handicap."

The policy elaborates that to be prepared for work, a student should possess at least the following skills:

- o mastery of the basic skills - communication, computation, and critical thinking; and the ability to apply such skills to on-the-job learning tasks.
- o pre-employment and work maturity skills - the knowledge, attitudes, and abilities needed to make informed career decisions, to seek, obtain, and maintain employment; to change jobs and careers; to understand worker rights and union functions; to follow workplace procedures; and to meet employer expectations and rules.

- o general and specific job skills for particular occupations and occupational clusters.

This report begins with an overview of the vocational education delivery system in Massachusetts. This overview is intended to provide the reader with the framework for understanding how the detailed information presented elsewhere in this accountability report fits into the general structure of vocational education in Massachusetts.

## The Vocational Education Delivery System

Vocational education in Massachusetts is an optional program of studies that is presented to secondary, postsecondary, and adult level populations. The program offerings represent at least 150 occupations which are organized under these six categories:

AGRICULTURE  
ALLIED HEALTH  
CONSUMER and HOMEMAKING  
MARKETING and DISTRIBUTIVE  
TECHNICAL  
TRADE and INDUSTRIAL

In addition, business and office, industrial arts and home economics courses are in operation in some communities in grades seven and eight and on the high school level.

Secondary level programs are administered by local, regional, and county school districts. On the postsecondary level, the service providers include local, regional and county school districts in addition to the fifteen community colleges. The adult level programs are provided by local and regional school districts and the community colleges.

Vocational education on the secondary school level in Massachusetts is an optional program of studies which 256 local school districts have chosen to offer.

During the 1983-84 school year a total of 205,706 students were enrolled in occupational education courses in public secondary schools. This number represents 68% percent of the total number (300,600) of public secondary school students in 1983-84. The percentage of students enrolled in vocational education has increased from the fifty-nine (59%) level registered for the 1978-79 school year. This increase has occurred in the face of generally declining enrollments on the high school level.

There are currently 60 public school systems which provide five or more vocational programs for their secondary school students. These 60 schools include the following organizational structures:



- 27 Regional Vocational-Technical School Districts
- 15 City or Town Vocational-Technical Schools,
- 13 Comprehensive Schools,
- 3 County Vocational-Agricultural Schools,
- 2 Independent Vocational School Systems  
(Northampton, Worcester)

These schools provide shop, related and academic classes to students in grades nine through twelve. Generally, the ninth grade program of studies is exploratory and allows students to experience each of the occupational courses provided by the school. Students then either confirm their original first choice or select a new area to pursue as a major. Most schools also provide cooperative education or other work experience programs that permit students to integrate an on-the-job learning experience with academic and related classes over a semester in either grade eleven or, most often, grade twelve.

Students who wish to pursue postsecondary education are provided with the necessary academic courses to qualify for admission to two or four year institutions of higher education. Students also have the opportunity to acquire a considerable amount of academic and basic skills through the related courses which emphasize the mathematical and scientific principles which are applied in the shop part of the program. These related courses are in addition to required academic coursework in English, mathematics, science and social studies. As a result of the number of courses required in vocational-technical education, students who pursue these programs of study are in school an average of one half hour longer than students in academic or comprehensive schools.

Chapter 74 of the Massachusetts General Laws governs the administration and supervision of state approved vocational education programs and sets forth ten approval factors for the review of programs for this 'state approved' designation:

1. Organization
2. Control
3. Location
4. Equipment
5. Courses of Study
6. Qualifications of Teachers
7. Methods of Instruction
8. Conditions of Admission
9. Employment of Pupils
10. Expenditures

A key element of the organization of vocational education in local school districts is the requirement to utilize general and program advisory committees. Each occupational subject area must have a program advisory committee with membership from labor, business and industry in that occupation. Students, parents and other community representatives are also included on these committee. The school's general advisory committees includes but



is not limited to the chairperson of each program advisory committee. It is estimated that between 8,000 and 9,000 business, industry, and labor representatives serve on these local advisory committees.

One of the major uses of the advisory committees is in the area of equipment upgrading to maintain state-of-the-art programs. Equipment must meet modern occupational standards and must be maintained and utilized in light of health and safety standards. Advisory committee members provide information to school officials about types and uses of equipment.

The establishment of a course of study is dependent on sufficient evidence of labor market demand for that occupation. Information and data from the Division of Employment Security is provided to service providers with analysis organized by the state's 15 Service Delivery Areas. Local employer surveys are important supplements or replacements for state labor market data. Again, a local program advisory committee will help to shape the program's course of study. The State Board of Education has supported the development of model Competency Based Vocational Education curricula to lead a continuing development in the effort to explicitly detail the competencies to be achieved and used to measure students' progress. Further information on recent trends and activities related to program improvement are described in the Accountability Report.

Vocational subject instructors enter the teaching profession from the occupations and a minimum of six years of recent full-time work experience in the specific occupation is required for the technical and the trade and industrial subjects. These two areas represent approximately 70 per cent of the course offerings. Applicants for instructor approval in these fields must also pass both a written and a performance examination in their occupation and then complete an 18 credit teacher training program within a three year period.

Applicants in other fields of study (i.e. agriculture, allied health, marketing and distribution, and occupational home economics) must possess a bachelor's degree, specific credits in the occupational area, and a minimum of three years of recent full-time work experience in the occupation. These applicants must also complete an 18 credit vocational teacher training program.

Licensure appropriate to the occupation is also required of applicants in certain fields (e.g. electrical, plumbing, allied health, etc.) There are no lifetime teaching certificates in vocational education in Massachusetts. Every two year period, instructor certificates must be maintained with the completion of appropriate professional improvement. Updating or upgrading of occupational skills and advancement of teaching skills are the primary focus of this activity.

Local and state funds provide about 94% of the financial support for vocational education programs on the local school district level. The 6% support provided by federal vocational education funds are targeted by law to economically depressed communities and to the provision of services to underserved populations. State reimbursements for vocational education expenditures are sent to the general aid funds of municipalities. Schools submit annual budgets to cities and/or towns for approval. Regional vocational technical school districts' budgets must be approved by two-thirds of member cities/towns. Federal vocational education funds are to be used to supplement, not supplant local and state funds.

Financial support for postsecondary and adult vocational education includes state and federal funds and individual tuitions or admission fees. A variety of education and training programs are operated by a mix of service providers. In some cases, two or more institutions collaborate to present a postsecondary or adult program of vocational education (e.g. local school district and community college).

Community colleges offer degree or certificate programs primarily in the fields of business and office, allied health occupations, and some technical occupations. Most postsecondary programs operated by local school districts are in allied health, technical, or trade and industrial subjects. Twenty-three (23) local school districts offer related instruction for apprentices in a total of 23 occupations; approximately two-thirds of these enrollees are in the construction trades. Short term industry specific adult training or retraining programs are also provided through local school districts and community colleges.

The Department of Education's Division of Occupational Education is responsible for the monitoring and evaluation of state approved vocational education programs which is accomplished through a system operating from the Department's six regional education centers. A comprehensive evaluation is performed on all major vocational education programs every five years with a team which includes students, occupational specialists, and Department personnel. The Division also evaluates the programs and activities which are supported by federal vocational education funds.

Schools which operate Chapter 74 vocational education programs are required to conduct follow-up studies of program completers on a one year and a four year basis. The aggregate results of the follow-up of the completers from school year 1983-84 are provided in this Accountability Report. The Division of Occupational Education conducts special state-wide studies of student follow-up and employer satisfaction for an appropriate sample of vocational education program completers. These special studies are conducted for three 'streams' (secondary, community college, other postsecondary) on a rotating basis over a three year period. This report also includes the results of a special



survey of the placement results of the program completers from school year 1984-85 for secondary school programs.

Vocational education in Massachusetts is an activity which involves a considerable degree of coordination with other agencies and institutions on both the State and local level. The Department of Education, primarily through its Division of Occupational Education, coordinates with a variety of state level education, economic development, job training, labor, and human services organizations. The reader is referred to the Massachusetts Three Year State Plan for Vocational Education for Fiscal Years 1986-1988 for a detailed description of the state level coordination process.

Local level coordination is required by the Division of Occupational Education for eligibility to receive federal vocational education funds. This coordination is organized through the local plan for occupational education which is required from all service providers. Local school districts coordinate with other education and job training providers and with human service agencies.



## II. ACHIEVEMENT OF GOALS

The following sections describe accomplishments or progress made in achieving the six goals for vocational education stated in the Five Year State Plan For Vocational Education which has been in effect since July 1, 1982 and which will expire as of July 1, 1985.\*

- GOAL 1: To administer effectively vocational education in Massachusetts.
- GOAL 2: To increase opportunities in vocational programs which are of high quality and realistic in terms of employment demand which meet the needs, interests and abilities of all citizens, have equal access for all and will insure that all students (particularly minorities, females, limited English proficient, handicapped, disadvantaged) are afforded equal access to vocational education programs.
- GOAL 3: To improve vocational educational programs and services. The purpose of this goal is to encourage the development and implementation of uniform standards in all vocational programs; to promote, support, and improve the quality of staff development programs; to increase students' competence and career decision-making skills; to serve special adult populations; and to meet employment needs in new occupational areas.
- GOAL 4: To promote informed training and career choices; to enable vocational guidance counselors to provide sound counseling to a broad range of persons; to promote the coordination of vocational guidance and counseling with the businesses, industries and professions which employ the graduates of vocational education programs; and to encourage the formation of peer and group counseling activities to retain students enrolled in programs that are non-traditional for their sex.
- GOAL 5: To develop and implement vocational programs and/or services that promote economic development within Massachusetts.
- GOAL 6: To increase the effectiveness of local advisory councils.

\* A Three Year State Plan for Vocational Education For Fiscal Years 1986-1988 took effect on July 1, 1985. This new Three Year State Plan includes an expanded listing of eight (8) goals which include the six goals listed above.



**A. GOAL 1: TO ADMINISTER EFFECTIVELY VOCATIONAL EDUCATION IN MASSACHUSETTS**

Several aspects of the Commonwealth's efforts at the effective administration of vocational education are described in this section:

1. Organization and Staffing
2. Procedures for Distribution of Funds
3. Use of Funds
4. Enrollments
5. Planning
6. Procedures for Evaluating Vocational Programs
7. Use of Evaluation Results to Improve Programs
8. Student and Employer Follow-Up

**1. Organization and Staffing**

The Board of Education, through its Division of Occupational Education, is the state agency responsible for the administration and supervision of vocational education programs operated by local education agencies and community colleges.

The Division of Occupational Education is charged with the responsibility of coordinating, promoting and establishing vocational, technical, adult employment training and retraining, apprenticeship programs, occupational skills training for displaced homemakers, and of making recommendations to the Board of Education with respect to these programs.

Vocational education is administered through the Associate Commissioner and the following seven bureaus:

- o Administrative Services
- o Education, Training and Employment
- o Firefighter Training
- o Financial Management
- o Planning, Research, and Evaluation
- o Postsecondary Occupational-Technical Education
- o Program Services

As of June, 1985 there were 121 staff (83 professional staff and 38 support staff) working in a central office, six regional centers, and a firefighting academy.

The administrative costs of operating the Division of Occupational Education require the Commonwealth to match 50% level federal funds made available to support the administrative costs of the Division.



## 2. Procedures for Distribution of Funds

New funding formulas were developed in 1982 for the proposed allocation of Public Law 94-482 funds by category among eligible recipients. The formulas were originally intended for use through fiscal years 1983 to 1987. They have been designed to increase the utilization of Federal Vocational Education Act funds for improving vocational education programs and services by providing a better match between limited dollars and the urgent program needs.

Among the advantages of the new allocation methodology are:

1. the addition of recent school lunch data for measurement of concentration of low income individuals, along with AFDC data;
2. the measurement of eligible recipient need through indices which compare the data of eligible recipients directly to statewide averages;
3. the recognition of relative program costs by additional or weighted counting of pupils enrolled in multi-year state approved intensive job skills training programs for total secondary, special needs, and limited English proficient student populations;
4. updating of the population income measure;
5. the upgrading of minimum allocations for some funding categories to assure that funded programs are large enough to have measurable impact;
6. allowing regional school districts to participate in the special disadvantaged allocation distribution, as long as their index of need is significantly higher than the statewide average, and their membership includes at least one city (population of 50,000 or more); and
7. recognition of equalized effort in support of occupational programs.

A new formula for distribution of adult short-term training funds was developed for fiscal year 1984. This formula gives priority to economically depressed areas and to school districts with unreimbursed federal construction aid. This formula is calculated separately from other funding sources but uses several of the same factors. The specific factors used are described at the end of this section.

## Setting Priorities

Priority for applicants located in economically depressed areas with high rates of unemployment and inability to provide resources for vocational education is accounted for in the present formula. The combined index of each school district was compared to the Areas of Substantial Unemployment Masterlist for Massachusetts, Labor Surplus Areas, and Unemployment Rates provided by the Massachusetts Division of Employment Security. These data indicated that the new formula gives priority in funding to the cities and towns located in economically depressed areas and areas where youth unemployment is high (unemployment rates for youth, ages 14 to 22, is not available by city and town). Therefore, the combined index allows the Commonwealth, in considering the approval of local applications, to give priority in the distribution of funds to those applicants located in economically depressed areas. Cooperative education program funds are not distributed by a separate formula but are included in the Subpart 2 formula distribution and are granted by need expressed in the Local Plan and Application; the combined index allows the Commonwealth, in considering the approval of local applications for cooperative education programs funds, to give priority in the Subpart 2 formula distribution to areas of high youth unemployment.

To encourage new programs which meet emerging manpower needs, funds are made available to eligible recipients through the Request for Proposal process. These funds are granted in addition to the amounts allocated by formula.

Formula Factors Federal Vocational Education Act funds are allocated among local education agencies based on their relative financial ability, relative concentration of low-income individuals, relative occupational education effort, unemployment and enrollments.

Relative financial ability is measured by computing the estimated full market value of taxable property per person for each city and town and dividing this by the statewide average. Estimates of full market value, or Equalized Valuations, are computed by the State Department of Revenue and certified to the state legislature every two years for the preceding year. The latest data are the 1982 Equalized Valuations which were so certified on or about January 1, 1983. The most recent official population figures for all cities and towns are from the 1980 census.



Relative concentration of low-income individuals is measured by Aid to Families with Dependent Children (AFDC), median family income data, and school lunch data. For each city and town, the percentages of children ages 5 to 17 for whom AFDC payments are being made is computed and then divided by the statewide percentage. These data match the state definition of economically disadvantaged or low-income pupils for distributing state educational aid. The latest available official AFDC information, obtained from the State Department of Public Welfare, is from 1982. School information is available from School Census counts required of all municipalities annually. The latest available figures represent school year 1981-82.

Since median family income is a component of the definition of economically depressed areas and serves as an indication of relative financial ability, it is used to measure concentration of low-income individuals. Median family income from the 1979 census for each city and town is divided by the statewide per capita income.

Full market value of taxable property per person indicates the tax resource base through which a majority of local expenditures are supported. The relative ability of persons to support additional local (property) taxation depends on income as well as property wealth and existing tax rates.

The percent of school lunches which are provided free or at a reduced charge is also used to measure concentration of low-income individuals. This index measures the number of low-income individuals actually enrolled in a particular school district. Latest available figures were from school year 1982-1983.

The index of equalized effort in support of occupational programs gives recognition to eligible recipients who spend a greater proportion of available education funds for occupational programs. The data used was for school year 1981-82.

Unemployment rates are January through December 1982 rates from the Division of Employment Security.

Construction of an Index The formula factors discussed above are used to construct separate indices of relative financial ability, concentration of low-income individuals, occupational education effort, and unemployment. Each index compares data for that recipient with statewide averages. As a result of this process, eligible recipients can be directly compared to each other.

Eligible recipients serving a particular city or town utilize the municipality's data in computing their index values. When a local education agency draws students from several communities, index values are based on a weighted average of the cities and towns served.

The indices have been developed to measure eligible recipient need. The higher the fiscal ability index value, the poorer the local education agency. The higher the concentration of low-income individuals, the greater the low-income index value.

A single index has been developed to measure relative financial ability. Three indices were developed (per capita income, AFDC percentage and percent of free/reduced lunch) to measure concentration of low income individuals. A single index measures occupational education effort. A single index measures unemployment. All of these indices are then added together to derive a combined index to measure overall eligible recipient per pupil need.



These indices are defined and explained on the following pages. In the examples, we assume that there are only three eligible recipients in the state (A, B, C) and their service areas do not overlap.

A. Relative Financial Ability Index

Definition

$$\text{Relative Financial Ability Index} = \frac{\text{Statewide Equalized Valuation Per Person}}{\text{Equalized Valuation Per Person for Eligible Recipient}}$$

Example

Table 1

Relative Financial Ability Index

	1	2	3	4
Eligible Recipient	Total Equalized Valuation	Population	Equalized Valuation Per Person	Index
A	\$1,000,000	100	\$10,000	$\frac{10,000}{10,000} = 1$
B	2,000,000	100	20,000	$\frac{10,000}{20,000} = .5$
C	5,000,000	600	8,333	$\frac{10,000}{8,333} = 1.2$
TOTAL OR AVERAGE	\$8,000,000	800	10,000	

Eligible recipients A, B, and C have their total equalized valuation and populations listed in columns 1 and 2 of Table 1. Their respective per person valuations are computed in column 3. The relative financial ability index for each eligible recipient is listed in column 4. Note that the lower the property wealth per person, the higher the relative financial ability index.

B. Concentration of Low Income Individuals Index

Definition

$$\begin{aligned}
 & \frac{1}{3} \times \frac{\text{Statewide Per Capita Income}}{\text{Eligible Recipient Per Capita Income}} \\
 & + \frac{1}{3} \times \frac{\% \text{ of School Attending Children Receiving AFDC for Eligible Recipient Service Area}}{\text{Statewide Aver. \% of School Attending Children Receiving AFDC}} \\
 & + \frac{1}{3} \times \frac{\% \text{ of Recipient's School Lunches Which Are Free or Reduced}}{\text{Statewide \% of School Lunches Which Are Free or Reduced}} \\
 & = \text{Concentration of Low Income Individual Index}
 \end{aligned}$$

Table 2

Concentration of Low Income Individuals Index

	1	2	3	4	5	6
Eligible Recipient	Per Capita Income	Per Capita Index	Percent of School Attending Children Receiving AFDC	AFDC Index	Ratio of Free and Reduced Lunches to Total Lunches	Lunch Index
A	\$10,000	$\frac{10,000}{10,000} = 1$	6%	$\frac{6\%}{5\%} = 1.2$	.12	$\frac{.12}{.1} = 1.2$
B	\$12,000	$\frac{10,000}{12,000} = .83$	2%	$\frac{2\%}{5\%} = .4$	.054	$\frac{.054}{.1} = .54$
C	9,000	$\frac{10,000}{9,000} = 1.11$	10%	$\frac{10\%}{5\%} = 2$	.156	$\frac{.156}{.1} = 1.56$

Statewide Per Capita Income = \$10,000    State Average = 5%    State Average = .1

Table 2 lists the per capita income, the percentage of school attending children receiving AFDC and the ratio of free and reduced school lunches to total school lunches in columns 1, 3, and 5 for our three eligible recipients (A, B, C) as well as statewide averages. In columns 2, 4, and 6 the per capita income index, AFDC index, and lunch index are computed for these eligible recipients.

### C. Occupational Education Effort Index

#### Definition

$$\begin{array}{l} \text{Recipient's} \quad \frac{\text{Occ. Ed. Direct Expend.}}{\text{Total Direct Expend.}} \times \frac{\text{Total Operating Expend.- State Aid}}{\text{Equalized Valuation}} \\ \hline \text{Statewide} \quad \frac{\text{Occ. Ed. Direct Expend.}}{\text{Total Direct Expend.}} \times \frac{\text{Total Operating Expend.- State Aid}}{\text{Equalized Valuation}} \\ \text{Average} \end{array}$$

= Occupational Education Effort Index

Table 3

#### Occupational Education Effort Index

	1	2
Eligible Recipient	Occupational Education Effort	Effort Index
A	.9	$\frac{.9}{1} = .9$
B	.6	$\frac{.6}{1} = .6$
C	1.2	$\frac{1.2}{1} = 1.2$

State Average = 1

Table 3 lists the occupational education effort and the effort index for our three eligible recipients.

### D. Unemployment Index

#### Definition

$$\frac{\text{Recipient's Unemployment Rate}}{\text{Statewide Unemployment Rate}} = \text{Unemployment Index}$$

The unemployment index is used only with Combined Index 3.



E. Combined Index

There are three forms of the combined index - Combined Index 2 is used only with funding source 110b1 (Disadvantaged); combined Index 3 is used to allocate Balance of Subpart 2 plus Subpart 3 plus Subpart 5; combined Index 1 is used with all other funding sources except Postsecondary/Adult which is calculated separately using the Adult index.

Definition

- Combined Index 1 =  $\frac{2}{3}$  X Relative Financial Ability Index +  $\frac{1}{3}$  X Per Capita Income Index +  $\frac{1}{3}$  AFDC Index +  $\frac{1}{3}$  School Lunch Index +  $\frac{1}{3}$  X Occupational Education Effort Index
- Combined Index 2 = .8 X Relative Financial Ability Index + .4 X AFDC Index + .4 X School Lunch Index + .4 X Occupational Education Effort Index
- Combined Index 3 =  $\frac{5}{16}$  (2 X Relative Financial Ability Index + 1 X Median Family Income Index + 1 X AFDC Index + 1 X School Lunch Index + 1 X Occupational Education Effort Index + .4 X Unemployment Index)

Table 4

Combined Index 1

	1	2	3	4	5	6
Eligible Recipient	$\frac{2}{3}$ Relative Financial Ability Index	$\frac{1}{3}$ Median Family Income Index	$\frac{1}{3}$ AFDC Index	$\frac{1}{3}$ Lunch Index	$\frac{1}{3}$ Effort Index	Combined Index 1
A	$\frac{2}{3} \times 1 = .67$	$\frac{1}{3} \times 1 = .33$	$\frac{1}{3} \times 1.2 = .4$	$\frac{1}{3} \times 1.2 = .4$	$\frac{1}{3} \times .9 = .3$	2.1
B	$\frac{2}{3} \times .5 = .33$	$\frac{1}{3} \times .83 = .28$	$\frac{1}{3} \times .4 = .13$	$\frac{1}{3} \times .54 = .18$	$\frac{1}{3} \times .6 = .2$	1.12
C	$\frac{2}{3} \times 1.2 = .8$	$\frac{1}{3} \times 1.11 = .37$	$\frac{1}{3} \times 2 = .67$	$\frac{1}{3} \times 1.56 = .52$	$\frac{1}{3} \times 1.2 = .4$	2.76

The Combined index 1 is computed in column 6 of Table 4 for each of our eligible recipients. This overall index of per pupil need is based on the prior derived relative financial ability, per capita income, AFDC, school lunch and effort indices. Combined Index 2 is calculated in a similar manner but the median family income index is not used. Combined Index 3 used one additional index - unemployment.

How the Formula Works Each eligible recipient's allocation by funding category is based on its combined index and appropriate student count, as well as the state total of funds available.

The process for arriving at allocations for eligible recipients is as follows:

FOR EACH RECIPIENT

1. compute combined index of need;
2. select the appropriate pupil count;
3. multiply the index by the pupil count to arrive at a weighted pupil total;

THEN

4. add weighted pupil totals to determine the state total weighted pupils;
5. divide the state total allocation by the state total weighted pupils to determine an allocation per weighted pupil; and

FINALLY

6. multiply each recipient's weighted pupil total by the allocation per weighted pupil to determine their total allocations.

Table 5 illustrates this process for our three hypothetical recipients, A, B, and C.

Table 5

Process for Arriving at Allocations for Eligible Recipients

	1	2	3
Eligible Recipient	Combined Index	Pupils	Weighted Pupils = Index X Pupils
A	2.1	25	52.5
B	1.12	20	22.4
C	2.76	100	276.0

State Total Weighted Pupils = 350.9

State Total Allocation = \$7,001.80

Allocation Per Weighted Pupil =  $\$7,001.80 / 350.9 = \$20$  Per Pupil

Column 1 repeats the combined index values previously computed. The pupil counts for each recipient are given in column 2. Multiplying these two figures we arrive at the weighted pupil totals in column 3. The state total allocation of \$7,001.80 is then divided by the state total weighted pupils of 350.9 to arrive at an allocation per weighted pupil of \$20.



Table 6

Per Pupil Allocations

	1	2	3
Eligible Recipient	Weighted Pupils	\$20 X Weighted Pupils	Total Allocation Allocation Per Pupil
A	52.5	\$1,050	$\frac{\$1,050}{25} = \$42.00$
B	22.4	\$448	$\frac{\$448}{20} = \$22.00$
C	276.0	\$5,502	$\frac{\$5,502}{100} = \$55.02$

A, B, and C's total allocations are listed in column 2 of Table 6. They were determined by multiplying weighted pupil totals by \$20 per pupil. Per pupil allocations (column 3 of Table 6) are simply total allocations divided by the pupil count.

The equalizing features of this process are apparent from the allocations per pupil. Recipient C (the neediest) receives \$55.02 for each of its pupils, while B (the least needy) receives a per pupil allocation of only \$22.00.

Allocation Formulas by Funding Source

A. Formulas and Formula Factors

Separate formulas were utilized to determine allocations by eligible recipient for the following funding categories:

1. Handicapped (110A)
2. Disadvantaged (110B1)
3. Limited English Proficiency (110B2)
4. Postsecondary/Community College (110c)
5. Postsecondary/Adult (110C)
6. Special Disadvantaged

The distribution of these student populations vary widely among eligible recipients depending upon the type of institution and the geographic service area. Separate formulas with separate pupil counts allow Public Law 94-482 funds to be allocated to institutions serving these target population groups on the basis of the number of such students served and overall recipient need per pupil, as represented by the combined index.

One formula was utilized for the allocation among eligible recipients of the following funding categories combined:

1. Balance Subpart 2;
2. Guidance and Counseling (Subpart 3);
3. Consumer and Homemaking (Subpart 5).

Since these funds are for programs available to all students, their distribution should depend upon overall enrollments in addition to the combined index.

Guidance and Counseling and Consumer and Homemaking funds are allocated by separate formulas. Since the total of these and Balance Subpart 2 funds are controlled by the combined formula, Balance Subpart 2 allocations are the residual or difference between combined formula allocations and the sum of Guidance and Counseling and Consumer and Homemaking allocations.

Recognized and approved by the Commonwealth of Massachusetts, Chapter 74 provides programs of multi-year intensive job skills training. The per pupil cost of these programs is significantly greater than that of other educational programs, as reflected by a pupil weight twice that of regular programs in the state educational aid formula (Chapter 70). In determining the pupil count for allocating Public Law 94-482 funds, the higher cost of these programs has been recognized by double counting students enrolled in these programs for the Handicapped, Limited English Proficient, Combined and Guidance and Counseling formulas.

The pupil count for allocating Special Disadvantaged funds is the number of pupils who withdrew (dropped out) for economic reasons during the academic year. This count is an accurate measure of the size of the drop-out problem for each eligible recipient.

For Disadvantaged allocations, the index of per pupil need is different from the combined index. Since these funds are used to provide support services and programs to economically and academically disadvantaged pupils, the per capita income index is not included, and the AFDC index is given additional weight.

The pupil count data utilized in the allocation formulas are presented in Table 7.

Table 7

Funding Source Index and Pupil Count Utilized in Allocations

FUNDING SOURCE	INDEX	PUPIL COUNT UTILIZED FOR ALLOCATION FORMULA
SEPARATE FUNDING FORMULAS		
Handicapped (110A)	Combined Index 1	Estimated Special Education Secondary Full-Time Equivalent Pupils Plus Estimated Secondary Special Education Full-Time Equivalent Pupils in Chapter 74 Occupational Programs
Disadvantaged (110B1)	Combined Index 2	All Secondary Pupils
Limited English Proficiency (110B2)	Combined Index 1	Transitional Bilingual Education Secondary Full-Time Equivalent Pupils Plus Estimated Secondary Limited English Proficient Full- Time Equivalent Pupils in Chapter 74 Occupational Programs
Special Disadvantaged (140)	Combined Index 1	Number of Pupils who Withdrew from School for Economic Reasons during the School Year
Postsecondary/Community College (110C)	Combined Index 1	Total Community College Full- Time Equivalent Enrollments Exclusive of Division of Continuing Education Enrollments
Postsecondary/Adult (110c)	Adult Index	Chapter 74 Postsecondary/Postgraduate Full- Time Equivalent Pupils
COMBINED FUNDING FORMULA		
Balance Subpart 2 and Guidance & Counseling (Subpart 3) and Consumer and Homemaking (Subpart 5)	Combined Index 3	All Secondary Pupils Plus Chapter 74 Full-Time Equivalent Secondary Pupils
Guidance & Counseling (Subpart 3)	Combined Index 1	All Secondary Pupils Plus Chapter 74 Full-Time Equivalent Secondary Pupils
Consumer & Homemaking	Combined Index 1	All Secondary Pupils



B. Allocations Levels and Other Factors

The combined index has been designed to give priority consideration in distributing funds to urban and rural school districts which are located in economically depressed areas with relatively high concentration of low-income persons, high unemployment rates, and relatively low financial ability to provide resources to meet the vocational need of the community.

In order to assure that allocations by funding sources are sufficient to have a measurable impact on the delivery of vocational education programs, minimum allocations have been established for several funding categories. Those eligible recipients whose total weighted pupils are insufficient to generate these minimum allocations either receive no allocations for that category, or, in the case of poorer rural communities, have their allocations raised to the minimum level.

Table 8 indicates the lowest and highest allocations by funding source. In addition, other factors regarding the allocations are listed in this table.

C. Adult Short-Term Formula Factors

Approximately \$1.6 million of subpart 2 funds were earmarked for adult short-term training programs and were distributed through a separate two-stage formula to area vocational-technical schools.

The first stage of the formula determines which school districts are eligible for adult short-term training funds. For each of the 62 area vocational-technical schools the unemployment index (explained earlier) is added to a construction index. The construction index is equal to the total construction money still due a particular system divided by the available funds for the year (\$1.6 million) divided by the number of area-vocational schools (62). If the unemployment index plus the construction index is greater than or equal to 2.0, the school district is eligible.

In the second stage of the formula, the allocations for the eligible districts are calculated. A weight for each eligible district is calculated by adding Relative Financial Ability Index + .5 X AFDC Index + .5 X School Lunch Index + .9 X Construction Index. The weights for all districts are summed to obtain the statewide weight. Each district's allocation equals the district's weight divided by the statewide weight times the total available funds (\$1.6 million).

TABLE 8

Funding Levels and Other Factors

FUNDING CATEGORY	LOWEST	HIGHEST	OTHER FACTORS
Handicapped	\$3,000	\$186,608	Eligible recipients whose combined index exceeded 1,990, and whose computed allocation was less than the minimum, were allocated the minimum amount
Disadvantaged	10,000	285,730	
Limited English Proficient	5,000	72,825	---
Special Disadvantaged	1,000	78,712	<ol style="list-style-type: none"> <li>1. Combined index exceeded 2.590</li> <li>2. Local school district with population exceeding 50,000</li> <li>3. Region with member city meeting requirements 1 and 2</li> </ol>
Postsecondary	35,000	---	For purposes of formula distribution, the community colleges were considered as eligible recipients and subject to the local education agency factors.
Combined Allocation	---	---	---
Guidance and Counseling	3,000	86,872	
Consumer and Homemaking	3,000	98,345	Not allocated to regional vocational technical schools, independent vocational school districts or county agricultural
Balance Subpart 2	---	---	---

### 3. Use of Funds

The Commonwealth of Massachusetts has ensured that the use of funds is consistent with federal requirements. This section documents the following aspects of the effective management of vocational education:

- A. Compliance with Federal Funding Requirements
- B. Use of Federal Funds to Meet Program Needs and Explanation of Discrepancies
- C. Estimated Expenditures by Program Area

#### A. Compliance with Federal Funding Requirements

Table 9 illustrates how the use of funds was in compliance with federal requirements in the following areas:

- o maintenance of effort
- o set-a-side percentages for handicapped, disadvantaged, and postsecondary/adult
- o state matching requirement

As shown in Table 9, in all instances the Commonwealth approximately met or exceeded federal requirements. Table 9 also gives a detailed breakdown of state/local expenditures, excess cost requirements, and administrative expenditures.

#### B. Use of Federal Funds to Meet Program Needs and Explanation of Discrepancies

Table 10 gives the budgeted and actual expenditures in each subpart category and explains the reasons for any large discrepancies between the budgeted and actual expenditures. The table also briefly describes the results accomplished with the funds in each subpart category. More detailed descriptions of program results are provided elsewhere throughout this report.

#### C. Estimated Expenditures by Program Area

Table 11 details the estimated fiscal year 1985 expenditures in each of the major program areas for secondary, postsecondary/adult, community college, and instructional programs.





Fiscal Year 1985

**TABLE 9**

**Compliance with Federal Funding Requirements**

- o Maintenance of Effort
- o Setaside Percentages
- o Matching Requirement
- o Breakdown of State/Local Expenditures
- o Excess Cost Requirement
- o Administrative Expenditures





TABLE 9

Fiscal Year 1985

Compliance With Federal Funding Requirements

Maintenance of Effort

<u>Fiscal Year</u>	<u>State/Local Expenditures</u>
1984	\$240,100,644
1985	\$256,033,043
Difference	+ 6.6 percent

Setaside Percentages

<u>Setaside Category</u>	<u>Fiscal Year 1985 Estimated Expenditures</u>	<u>Estimated Actual Percent of Total Subparts 2 &amp; 3</u>	<u>Required Percent</u>
Handicapped (110A)	1,406,659	8.8 % *	10%
Disadvantaged:			
Limited English (110B2)	289,380		
Other (110B1)	2,678,199		
Total Disadvantaged	2,967,579	18.5 % *	20%
Post Secondary/Adult (110C)	3,429,361	21.4 %	15%

Limited English Proficient Population Ages 15-24  
Divided by Total Population Ages 15-24 = 2%

Limited English Proficient Expenditures  
Divided by Total Disadvantaged Expenditures = 9%

Matching Requirement

<u>Fiscal Year 1985 State/Local Expenditures</u>	<u>Fiscal Year 1985 Federal Expenditures</u>	<u>Total</u>
\$256,033,043	\$17,169,994	\$273,203,037

15 to 1 (State/Local to Federal)

\* Setaside percentage requirements will be met with carryover funds to be spent in fiscal year 1986.

Table 9 (continued)

Breakdown of State/Local Expenditures

Program and activities supported in whole or in part by state and local funds used to match federal funds and for maintenance of effort purposes have met the same conditions and requirements as those supported by federal funds.

<u>Estimated Fiscal Year 1985 State/Local Expenditures</u>	<u>Laws/Regulations/Policies Governing Use of State/Local Funds in Accord With Federal Conditions &amp; Requirements</u>
Full-Time Occupational Day \$145,613,064	
Disadvantaged (Excess Costs) \$2,744,114	General Laws: Chapters 15, 70 and 74 Board Policy on Occupational Education
Postsecondary/Adult (Chapter 74) \$6,504,007	
Guidance and Counseling \$7,400,000	
Community Colleges \$20,000,000	Joint Policy on Occupational Education
Construction of Vocational Facilities \$4,500,000	Chapter 645 - Acts of 1948 as Amended
Handicapped Vocational (Excess Costs) \$12,616,274	Chapter 766 and Board Policy
Limited English Proficiency (Excess Costs) \$1,636,805	Chapter 71A and Board Policy
Consumer and Homemaking (Non-Occ) \$17,459,640	Chapter 70 and Board Policy
Industrial Arts \$29,117,419	Chapter 70 and Board Policy
Administration \$8,441,720	
<u>\$256,033,043 TOTAL</u>	

\$256,033,043 is the Fiscal Year 1985 state and local expenditure for vocational education in the Commonwealth of Massachusetts used as matching and maintenance of effort requirements.

Excess Cost Requirement

<u>Setaside Category</u>	<u>Fiscal Year 1985 Estimated Federal Expenditures</u>	<u>Fiscal Year 1985 State/Local Expenditures</u>
Handicapped	\$1,406,659	\$12,616,274
Disadvantaged	2,678,199	2,744,114
Limited English Proficient	289,380	1,636,805
Postsecondary/Adult	3,429,361	26,504,007

Administrative Expenditures

1. Estimated State Administrative Costs

Estimated State Administrative Costs under Sections 120, 130, and 150 at the federal and state levels are listed below.

	<u>Federal</u>	<u>State</u>	<u>Purpose</u>
Section 120	\$894,845	\$1,073,376	General administration of central and regional offices and technical assistance for Vocational Education programs at local schools
Full Time Sex Equity	60,327		Activities to eliminate sex discrimination and sex stereotyping
Section 130	238,793	268,344	Data collection, evaluation of local programs planning, and RCU administration
Section 150	<u>75,000</u>	<u>                    </u>	Technical assistance to local schools
TOTAL	\$1,268,965	\$1,341,720	



## 2. Local Administrative Expenditures

Local administrators costs for local vocational education programs, including administration, planning, and evaluation activities are not reported by separate funding category. Community college administrative expenditures are not included in the figure below.

<u>Funding Categories</u>	<u>Estimated Local Administrative Costs</u>
Section 120	Regular Vocational/Occupational Programs
Section 130	Program Improvement and Supportive Services
Section 140	Special Programs for the Disadvantaged
Section 150	Consumer and Homemaking Education
TOTAL LOCAL ADMINISTRATION	7,100,000

Fiscal Year 1985

TABLE 10

Use of Federal Funds to Meet Program Needs  
and Explanation of Discrepancies  
between Budgeted and Actual Expenditures





Table 10- Use of Federal Funds to Meet Program Needs in Fiscal Year 1985

Expenditures by Subpart		Budget	Actual	Deviation	Reason For Deviation	Description of Results
<u>Basic Grants Programs</u>						
(Sec. 120)						
Handicapped		\$1,574,632	\$1,406,659	\$167,973	Setaside requirement will be fully met in FY-86 for FY-85 funds.	Supportive services, specialized training and individualized assistance were provided for handicapped students enrolled in regular vocational education programs.
Disadvantaged		2,865,819	2,678,199	187,620	Same as Above	Supportive services directly related to improving the ability of disadvantaged students to succeed in vocational education programs were delivered.
Limited English Proficient		283,444	289,380	(5,936)		Individualized English language instruction in skills training and related theory was provided to limited English proficient students.
Postsecondary		2,817,210	2,208,103	609,107	Balance was spent in Displaced Home-maker, Interagency Industry Specific and Corrections programs.	Funding programs provided incentives for improved guidance and support services, improved use of community resources and promotion of economic development
Other Students		3,904,515	4,765,517	(861,002)	Excess was funded with FY-85 carry-over funds.	Projects resulted in improvement of existing skills training programs, expansion of program offerings and increased enrollment in skills training programs.
Cooperative		200,000	62,559	137,441	LEA's chose to use their skill training funds for other types of programs.	By providing effective transition from the vocational training setting to actual employment, job placement rates were improved.

Table 10- Use of Federal Funds to Meet Program Needs in Fiscal Year 1985 (Continued)

Expenditures by Subpart	Budget	Actual	Deviation	Reason For Deviation	Description of Results
Displaced Homemakers	300,000	397,151	(97,151)	Greater demand for displaced homemaker programs.	Organized nontraditional programs provided the following services for displaced homemakers: assessment of employment objectives, skills training and placement counseling.
Interagency Industry Specific	400,000	727,008	(327,008)	Increase in emphasis on adult training/retraining programs.	Short term skills training responded to training needs of the unemployed and the underemployed and to industry's needs for personnel.
Sex Equity Personnel	60,000	60,327	(327)		An Office of Educational Equity has been created with full-time personnel responsible for all activities described in Section 104 (b), (A) through (I), of Public Law 94-482.
Correctional Programs	-0-	97,099	(97,099)	Funds were budgeted under "Post-secondary" category.	Skills training and supportive services were provided for persons incarcerated in county correctional and other institutions.
Student Organizations	-0-	41,340	(41,340)	Budgeted under "Other Students" category.	Leadership was provided to students enrolled in DECA, VICA, and FFA.
State Administration	980,000	955,172	24,828		
SUB TOTAL (Sec. 120)	13,385,620	13,688,514	(302,894)	Excess was funded with FY-85 carry-over funds.	

Table 10- Use of Federal Funds to Meet Program Needs in Fiscal Year 1985

Expenditures by Subpart	Budget	Actual	Deviation	Reason For Deviation	Description of Results
<u>Program Improvement and Support Services (Sec. 130)</u>					
Exemplary and Innovative	400,000	459,871	(59,871)	Additional funds were needed to expand model school-to-work transition program to additional communities.	Model programs in Principles of Technology, School-to-Work Transition and Academic Support were funded.
Curriculum Development	250,000	326,579	(76,579)	Additional funds were needed for development of Competency-Based curricula.	In addition to the funding of curriculum development, the most current curriculum resources were made available to all vocational educators.
Research	125,000	-0-	125,000	Increased demand for other Subpart 3 programs.	A statewide evaluation system has been developed to determine the success and efficiency of vocational education programs.
Guidance and Counseling	800,000	920,779	(120,779)	Additional funds given to community base organizations to help disadvantaged students make the transition into vocational ed.	Services provided assistance to students in making informed occupation decisions, career decisions, or decisions regarding postsecondary education.
Personnel Training	381,742	179,718	202,024	Increased demand for other Subpart 3 programs.	Recruitment and training resulted in an increased number of female, minority and bilingual vocational education instructors in the state.



Table 10- Use of Federal Funds to Meet Program Needs in Fiscal Year 1985

Expenditures by Subpart	Reason For		Description of Results	
	Budget	Actual	Deviation	Deviation
Sex Bias Grants	160,000	81,614	78,386	Elimination of sex Model projects, research and staff training resulted in increased female/male enrollments in nontraditional skills training programs, improved capacity of Department and LEA personnel to insure sex equity.
RCU	-0-	152,757	(152,757)	Budgeted under other categories. A Research Coordinating Unit implemented research exemplary/innovative, curriculum development and professional development activities.
State Administration	243,950	238,793	5,157	
SUB TOTAL (Sec. 130)	2,360,692	2,360,111	581	
Special Programs for the Disadvantaged (Sec. 140)				
SUB TOTAL (Sec. 140)	339,100	290,132	48,968	Balance of funds will be spent in fiscal year 1986 Opportunities for comprehensive vocational and exploratory programs with strong guidance and counseling components provided for disadvantaged students.

Table 10- Use of Federal Funds to Meet Program Needs in Fiscal Year 1985

Expenditures by Subpart	Budget	Actual	Deviation	Reason For Deviation	Description of Results
<u>Consumer and Homemaking Education (Sec. 150)</u>					
C & H Depressed	325,000	442,675	(117,675)	Funds were given to community-based organizations for programs in depressed communities in addition to funds allocated to local school districts.	The following programs were provided to encourage both males and females to prepare for the occupation of homemaker and wage earner: consumer education, food and nutrition, family life education, parenting education, child development & guidance, housing and home management.
C & H Non-Depressed	327,197	228,810	98,387		
Ancillary and Administration	95,000	75,000	20,000		
SUB TOTAL (Sec. 150)	747,197	746,485	712		
<u>Planning &amp; Data Collection (Sec. 102D)</u>					
SUB TOTAL (Sec. 102D)	84,752	84,752	-0-		Occupational enrollment, expenditure and follow-up data was collected, analyzed and used for evaluation of occupational programs.
GRAND TOTAL	\$16,917,361	\$17,169,994	(\$252,633)	Balance was funded with FY-85 carry-over funds.	





Fiscal Year 1985

TABLE 11

Expenditures by Program Area



TABLE 11

Fiscal Year 1985

## EXPENDITURES BY PROGRAM AREA

Program Area	State and Local Direct Instructional Expenditures		Federal Instructional Expenditures
	School Districts	Community Colleges	
	Secondary	Postsecondary/Adult	
01.0000 Agriculture	\$4,185,567	\$569,247	\$216,378
04.0000 Distribution	4,274,179	93,735	\$375,528
07.0000 Health	3,427,815	2,054,534	798,796
09.0100 C/H Non Occ.	17,193,910	189,904	671,484
09.0200 C/H Occ. Prep.	2,402,941	526	157,376
14.0000 Office	37,419,036	incl. in secondary	4,190,630
16.0000 Technical	4,062,682	1,193,070	1,330,778
17.0000 Trades/Industry	87,687,573	2,301,473	6,254,579
10.0000 Industrial Arts	29,117,419	101,518	-0-
Subtotal	<u>\$189,771,122</u>	<u>\$6,504,007</u>	<u>\$13,995,549</u>
Expenditures Not Classified by Program Area	\$2,437,156	-0-	1,558,703
Total Expenditures	<u>\$192,208,278</u>	<u>\$6,504,007</u>	<u>\$15,554,252</u>
Total State & Local Instructional Expenditures	<u>\$218,712,285</u>		
Total Federal Instructional Program Expenditures			<u>\$15,554,252</u>





#### 4. Enrollments

The enrollments reported for occupational education programs in fiscal year 1985 indicate that these occupational programs continue to be a widely-chosen course of study for both the youth and adults of the Commonwealth. For example, during school year 1984-85 a total of 205,706 students were enrolled in vocational education courses in public secondary schools. This number represents about two-thirds of all public secondary school students for 1984-85.

Tables 12-18 provide detailed information about fiscal year 1985 enrollments by education level and by program. In some instances, the numbers of program completers are also given.

- o Table 12 shows overall statewide enrollments by major program area and educational level.
- o Table 13 gives Chapter 74 secondary enrollments and number of completers by detailed program area and type of school.
- o Table 14 provides Chapter 74 postsecondary (day program) enrollments and number of completers by detailed program area and type of school.
- o Table 15 shows non-Chapter 74 secondary enrollments by major program area.
- o Table 16 gives other postsecondary/adult public school enrollments by major program area.
- o Table 17 provides community college day school enrollments and number of completers by detailed program area and award (associate degree or certificate).
- o Table 18 provides community college continuing education enrollments by major program area.





Fiscal Year 1985

TABLE 12

Statewide Enrollments by Major Program Area  
and Educational Level

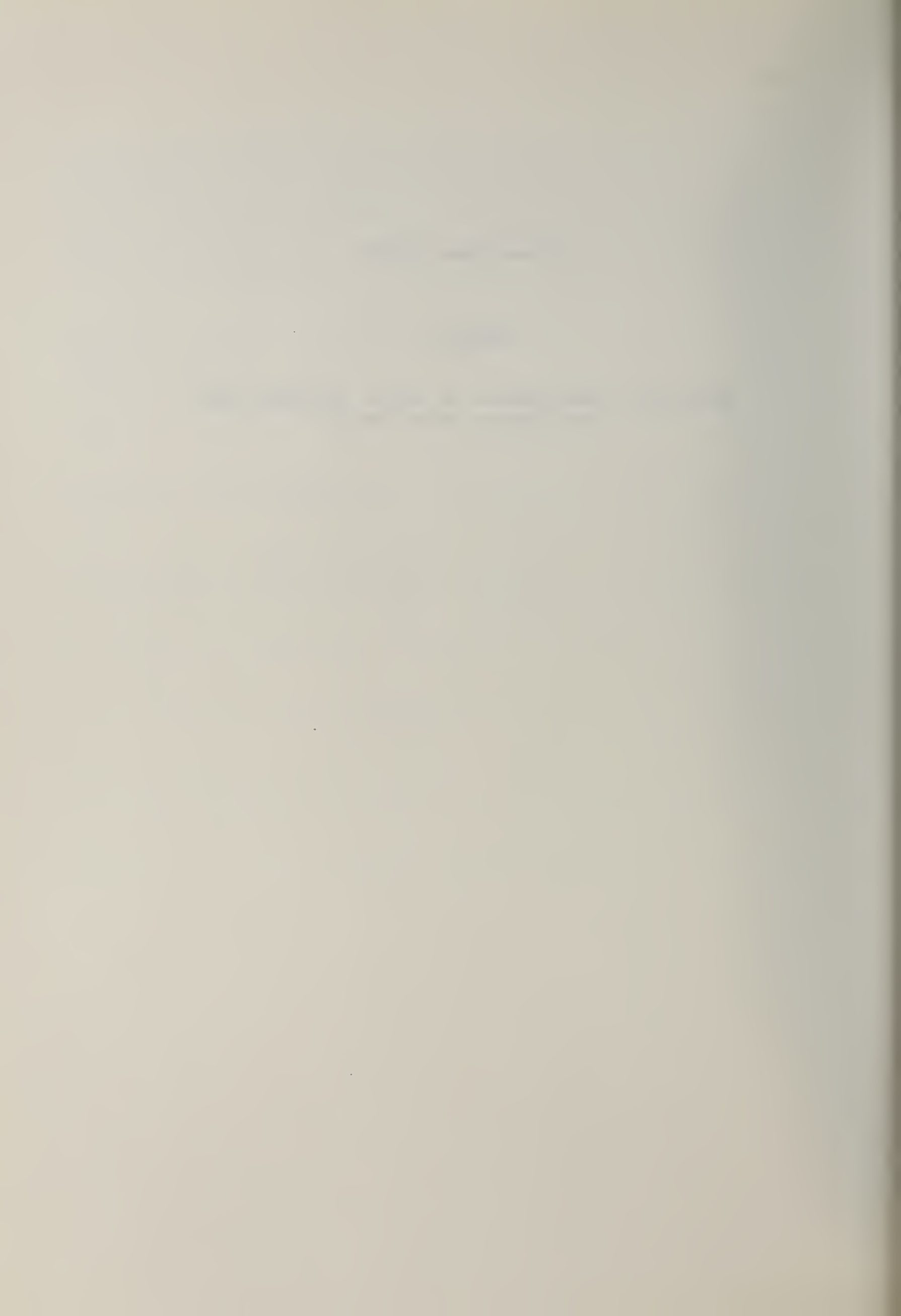


Table 12

Fiscal Year 1985

Overall Statewide Enrollments in Occupational Programs  
By Major Program Area and Level

Program	School Districts		Community Colleges	Total
	Postsecondary/ Secondary	Postsecondary/ Adult	Adult	
Agriculture	1,489	1,319	27	2,835
Distributive Education	4,067	98	1,745	5,910
Health Occupations	1,921	850	4,106	6,877
Consumer and Homemaking (Occ. Prep. & Not Occ. Prep.)	33,655	3,601	1,068	38,324
Office Occupations	78,441	1,833	16,710	96,984
Technical Occupations	2,345	970	8,802	12,117
Trade and Industrial	<u>33,360</u>	<u>4,864</u>	<u>866</u>	<u>39,090</u>
Totals	<u>155,278</u>	<u>13,535</u>	<u>33,324</u>	<u>202,137</u>

Other Occupational Programs:

Industrial Arts	
Grades 7 and 8	42,682
Secondary	<u>50,723</u>
Consumer and Homemaking (Not Occupational)	
Grades 7 and 8	<u>45,014</u>
Adult Practical Arts not included above	2,011
TOTAL STATEWIDE ENROLLMENTS	<u>342,567</u>





Fiscal Year 1985

TABLE 13

Chapter 74 Program Secondary Enrollments  
and Completers





TABLE 13

Fiscal Year 1985

Chapter 74 Secondary Enrollments and Completers  
By Detailed Program Area and Type of School District

Students, Completers, Number of Programs

USOE Code and Title	Number of Programs			1984-1985 Enrollments	1984-1985 Completers
	RV	AR	LSD		
010100 Agricultural Production	2	1		47	25
010101 Animal Science	3		1	250	64
010102 Plant Science	1			6	3
010198 Animal Science (Small)	1			45	25
010199 Poultry Science	1			9	4
010300 Agricultural Mechanics	1	1		47	15
010500 Ornamental Horticulture	8	2	2	326	102
010501 Arboriculture	2			29	12
010502 Floriculture	2			89	26
010504 Landscaping	2			109	27
010600 Agriculture Resources	1		1	32	4
010700 Forestry	1			49	16
019900 Other Agriculture	2		1	352	21
SUBTOTAL AGRICULTURE	26	4	1	1,390	344
040200 Apparel and Accessories			1	5	1
040400 Finance and Credit			2	55	21
040700 Food Service	3		1	134	45
040800 General Merchandising	12	10	48	2,474	1,367
041100 Hotel and Lodging	1		1	153	4
049901 Small Business Management	1			66	0
SUBTOTAL DISTRIBUTIVE EDUCATION	17	10	53	2,887	1,438
070299 Medical Lab., Other			1	10	0
070303 Nursing Assistant (Aide)	6		5	621	161
070904 Medical Assistant	2		1	90	19
070906 Health Aide	13	1	3	918	222
SUBTOTAL HEALTH	21	1	10	1,639	402

RV=Regional Vocational Technical, County Agricultural, and Independent Vocational Districts

AR=Academic Regional Districts

LSD=Local School Districts (Single City or Town School Districts)

TABLE 13

Fiscal Year 1985

Chapter 74 Secondary Enrollments and Completers  
By Detailed Program Area and Type of School District

Students, Completers, Number of Programs

USOE Code and Title	Number of Programs			1984-1985 Enrollments	1984-1985 Completers
	RV	AR	LSD		
090201 Care and Guidance of Children	7	2	6	461	135
090202 Clothing	6		2	263	56
090203 Food Management Production/ Services	2		1	174	39
090205 Institutional and Home Management	3			367	28
<hr/>					
SUBTOTAL OCCUPATIONAL PREPARATION HOMEMAKING	18	2	9	1,265	258
<hr/>					
160105 Chemical Technology	1			52	10
160108 Electronic Technology	1			38	7
160117 Scientific Data Technology	2			120	29
160401 Programmer	18	1	6	1,360	326
169903 Packaging Tech	1				3
169904 Radio & TV Prod			1	27	8
169907 Business Technology	2			79	79
<hr/>					
SUBTOTAL TECHNICAL	25	1	1	1,676	462
<hr/>					
170100 Air Conditioning	16		3	604	144
170200 Appliance Repair	5		3	244	53
170301 Body and Fender	23	1	15	1,793	309
170302 Auto Mechanics	28	7	25	3,415	739
170700 Commercial Art	15		4	895	188
170900 Commercial Photography			1	46	0
171001 Carpentry	27	7	20	3,011	700
171002 Electricity	17	2	9	1,471	332
171003 Heavy Equipment	2			33	12
171004 Masonry	9			350	63
171005 Painting and Decorating	16		5	714	124
171007 Plumbing and Pipefitting	19	1	3	1,157	222
171099 Construction and Maintenance Other	13		3	437	116
171100 Custodial	1			22	1

TABLE 13

Fiscal Year 1985

Chapter 74 Secondary Enrollments and Completers  
By Detailed Program Area and Type of School District

Students, Completers, Number of Programs

USOE Code and Title	Number of Programs			1984-1985 Enrollments	1984-1985 Completers
	RV	AR	LSD		
171200 Diesel Mechanics	6			222	58
171300 Drafting	26	3	17	1,467	332
171400 Electrical	11		9	1,121	226
171500 Electronics	27	1	20	2,455	555
171503 Radio & Television	1		1	129	27
171900 Graphic Arts	20	2	18	1,946	435
171902 Printing Press Operator Graphics	3		2	230	39
172100 Instrument Maintenance	1			27	5
172200 Maritime Occupations	4			166	31
172302 Machine Shop	26	4	19	2,480	604
172305 Sheet Metal	11	3	8	751	164
172306 Welding and Cutting	10		4	565	124
172309 Metal Patternmaking			1	26	2
172399 Metalworking, Other	12		7	788	213
172602 Cosmetology	20		9	1,243	367
172700 Plastics	2			29	6
172900 Quantity Food	20	3	10	2,034	495
172902 Cook/Chef	3		2	285	81
173100 Small Engine	4		3	218	32
173200 Stationary Energy	1		1	83	17
173300 Textile Production and Fabrication	3		1	119	31
173500 Upholstering	5		2	161	41
173600 Woodworking/Cabinetmaking	8	1	10	803	173
179901 Industrial Sewing Machine Repair			1	39	14
179903 Packaging Mechanics	1			14	6
SUBTOTAL TRADE AND INDUSTRY	416	35	236	31,593	7,081
TOTAL	524	53	321	40,450	9,985





Fiscal Year 1985

TABLE 14

Chapter 74 Program Postsecondary Day Enrollments  
and Completers



TABLE 14

Fiscal Year 1985

Chapter 74 Postsecondary Day Enrollments and Completers  
By Detailed Program Area and Type of School District

Students, Completers, Number of Programs

USOE Code and Title	RV	Number of Programs		1984-1985 Enrollments	1984-1985 Completers
		AR	LSD		
010101 Animal Science	1			18	0
010299 Animal Tech (Grooming)	1			48	29
010401 Food Products (Lab/Diet)	1			30	8
010502 Floriculture	1			32	11
010505 Nursery Operation & Mgmt.	1			69	16
010601 Natural Resources/Forestry	1			23	4
010604 Natural Resources/Wildlife	1			26	8
<hr/>					
SUBTOTAL AGRICULTURE	7			246	76
<hr/>					
040200 Apparel & Accessories	1		1	45	24
040700 Food Services			1	50	22
040800 General Merchandising			1	3	3
<hr/>					
SUBTOTAL DISTRIBUTIVE EDUCATION	1		3	98	49
<hr/>					
070101 Dental Assistant	6			99	83
070203 Medical Lab Assistant	1			12	12
070299 Medical Lab other	1			28	12
070302 Practical Nursing	10		2	358	342
070303 Nursing Aide	2			16	16
070305 Surgical Technician	2			27	19
070600 Ophthalmic	1			31	9
070904 Medical Assistant	7			124	98
<hr/>					
SUBTOTAL HEALTH	30		2	695	591
<hr/>					

TABLE 14

Fiscal Year 1985

Chapter 74 Postsecondary Day Enrollments and Completers  
By Detailed Program Area and Type of School District

Students, Completers, Number of Programs

USOE Code and Title		Number of Programs			1984-1985 Enrollments	1984-1985 Completers
		RV	AR	LSD		
160103	Architectural Technology	2			79	28
160106	Civil Technology	1			20	0
160107	Electrical Tech	1			22	4
160108	Electronic Technology	3			147	79
160109	Electro-mechanic Technology	2			60	25
160401	Programmer	4			194	110
SUBTOTAL TECHNICAL		13			522	246
170100	Air Conditioning	1			48	20
170700	Commercial Art	2			91	28
171200	Diesel Mechanics	1			57	23
171300	Drafting	1			99	22
172306	Welding	1			30	12
172602	Cosmetology	2		1	116	104
172901	Baking	1			8	2
172902	Cook/Chef				91	30
SUBTOTAL TRADE AND INDUSTRY		10		1	540	241
POSTGRADUATES						
010500	Orn. Horticulture	N/A	N/A	N/A	5	1
170200	Appliance Repair	N/A	N/A	N/A	2	2
170301	Body and Fender	N/A	N/A	N/A	3	2
170302	Auto Mechanics	N/A	N/A	N/A	18	3
171001	Carpentry	N/A	N/A	N/A	7	2
171002	Electricity	N/A	N/A	N/A	16	3
171004	Masonry	N/A	N/A	N/A	1	0
171005	Painting & Decorating	N/A	N/A	N/A	1	1
171007	Plumbing	N/A	N/A	N/A	11	4
171099	Construc. & Maint, Other	N/A	N/A	N/A	1	2
171500	Electronics	N/A	N/A	N/A	3	0
171400	Electrical	N/A	N/A	N/A	7	4
171900	Graphic Arts	N/A	N/A	N/A	6	4
172302	Machine Shop	N/A	N/A	N/A	12	6



TABLE 14  
Fiscal Year 1985

Chapter 74 Postsecondary Day Enrollments and Completers  
By Detailed Program Area and Type of School District

Students, Completers, Number of Programs

USOE Code and Title		Number of Programs			1984-1985	1984-1985
		RV	AR	LSD	Enrollments	Completers
172900	Quantity Foods	N/A	N/A	N/A	7	7
173600	Cabinetmaking	N/A	N/A	N/A	5	1
SUBTOTAL POSTGRADUATES					105	42
TOTAL		61	0	6	2206	1,245



Fiscal Year 1985

TABLE 15

Non-Chapter 74 Secondary Enrollments





TABLE 15  
Fiscal Year 1984

NON CHAPTER 74 SECONDARY ENROLLMENTS BY MAJOR PROGRAM AREA  
(With Detailed Breakdown for Office Occupations and Consumer/Homemaking)

Occupational Preparation Programs

USOE Code and Title		1983-1984 Detailed Program* Enrollment	1983-1984 Major Program** Enrollment
010000	Agriculture		99
040000	Distributive Education		1180
070000	Health Occupations		282
090200	Occupational Home Economics		592
140100	Accounting and Computing	16,257	
140201	Computer and Console Operations	4,884	
140203	Programmers	5,259	
140299	Other Business Data Processing	2,842	
140300	Filing, Office Machines	3,039	
140400	Information, Communication Occupations	613	
140500	Materials Support		
140600	Personnel Training and Relations	727	
140700	Steno, Secretarial and Related Occupations	8,572	
140800	Supervisory and Administrative Management	660	
140900	Typing and Related Occupations	29,939	
149900	Other Office Occupations	5,649	
140000	Office Occupations		78,441
160000	Technical Occupations		669
170000	Trade and Industrial		1,767
TOTAL OCCUPATIONAL PREPARATION			83,030

\*Detailed = 2 digit OE Code

\*\*Major = 6 digit OE Code

TABLE 15  
Fiscal Year 1984

NON CHAPTER 74 SECONDARY ENROLLMENTS BY MAJOR PROGRAM AREA  
(With Detailed Breakdown for Office Occupations and Consumer/Homemaking)

Occupational Preparation Programs

USOE Code and Title		1983-1984 Detailed Program* Enrollment	1983-1984 Major Program** Enrollment
090101	Comprehensive Homemaking	6,063	
090101	Care and Guidance of Children	4,074	
090103	Clothing and Textiles	4,020	
090104	Consumer Education	727	
090105	Family Health	474	
090106	Family Living and Parenthood	2,276	
090107	Food and Nutrition	11,132	
090108	Home Management	289	
090109	Housing and Home Furnishing	330	
090199	Other Homemaking	2,413	
090100	Prep. for Occup of Homemaking		31,798
TOTAL ALL PROGRAMS:			114,828

\*Detailed = 2 digit OE Code

\*\*Major = 6 digit OE Code

Fiscal Year 1985

TABLE 16

Other Postsecondary/Adult Public School Enrollments





TABLE 16  
Fiscal Year 1984

OTHER POSTSECONDARY/ADULT PUBLIC SCHOOL ENROLLMENTS  
BY MAJOR PROGRAM AREA

USOE Code and Title		1983-1984 Enrollments
010000	Agriculture	1,068
040000	Distributive Education	-0-
070000	Health Occupations	155
090200	Occupational Consumer and Homemaking	649
090100	Consumer and Homemaking (Not Occupational)	2,952
140000	Office Occupations	1,833
160000	Technical Occupations	448
170000	Trade and Industrial	4,224
990000	Other (Not Classified Above)	2,011
TOTAL		13,340



Fiscal Year 1985

TABLE 17

Community College Day School Enrollments  
and Completers





TABLE 17  
Fiscal Year 1985

COMMUNITY AND JUNIOR COLLEGE DAY SCHOOL ENROLLMENTS  
AND COMPLETERS BY DETAILED PROGRAM

USOE Code and Title	# of Programs		# of Students	
	Associate Degree	Certificate	1984-85 Enrollments	1984-85 Completers
010500 Ornamental Horticulture	2	-	81	15
SUBTOTAL AGRICULTURE	2		81	15
040400 Finance & Credit	4		224	69
040200 Apparel & Accessories	1		39	8
040700 Food Services	2	1	196	35
040800 General Merchandise	5	-	264	51
041100 Hotel and Lodging	6	-	495	90
041700 Real Estate	2	-	7	3
041800 Recreation & Tourism	2	2	75	33
SUBTOTAL DISTRIBUTIVE	22	3	1300	289
070101 Dental Assisting	1	3	50	33
070102 Dental Hygiene	5	-	192	79
070103 Dental Laboratory Technology	2	1	86	44
070203 Medical Laboratory Assisting	4	-	123	56
070299 Medical Lab Tech, Other	1	-	45	9
070301 Nursing (Associate Degree)	15	-	1858	787
070302 Practical Nursing		1	61	50
070399 Nursing, Other	1	1	65	38
070400 Rehabilitation	5	2	231	67
070501 Radiologic Technology	8	-	274	113
070800 Mental Health Technology	3	-	165	35
070903 Inhalation Therapy	6	2	238	61
070904 Medical Assistant	2	-	156	64
079900 Health Occupations Education, Other	8	4	304	52
SUBTOTAL HEALTH	61	14	3848	1488
090201 Care & Guidance of Children	10	-	734	192
090203 Food Management Production & Services	2	-	54	10
SUBTOTAL OCCUPATION-PREPARATION CONSUMER & HOMEMAKING	12	-	788	202

TABLE 17

Fiscal Year 1985

COMMUNITY AND JUNIOR COLLEGE DAY SCHOOL ENROLLMENTS  
AND COMPLETERS BY DETAILED PROGRAM

		# of Programs		# of Students	
USOE Code and Title		Associate Degree	Certificate	1984-85 Enrollments	1984-85 Completers
140100	Accounting & Computing	10	-	1242	330
140203	Programmers	6	-	915	163
140299	Business Data Processing Systems				
	Occupations, Other	11	2	1309	292
140400	Information Communication Occ.	6	1	266	66
140700	Stenographic, Secretarial & Related	43	18	3083	739
140800	Supervisory and Administrative Management Occ.	14	1	3630	717
140900	Typing & Related Occ.	2	-	54	7
SUBTOTAL OFFICE OCCUPATIONS		92	22	10499	2314
160103	Architectural Tech	1	-	20	7
160104	Automotive Technology	4	1	196	63
160106	Civil Technology	5	-	75	17
160107	Electrical Technology	4	-	112	23
160108	Electronic Technology	13	2	1009	213
160109	Electromechanical Technology	5	4	651	174
160110	Environmental Control Technology	5	-	90	21
160111	Industrial Technology	3	-	186	32
160113	Mechanical Technology	2	-	51	14
160602	Fire & Fire Safety Technology	3	-	87	35
160605	Police Science Technology	4	-	427	86
169900	Other Technical Education	38	8	2849	731
SUBTOTAL TECHNOLOGY		87	15	5753	1416

TABLE 17

Fiscal Year 1985

COMMUNITY AND JUNIOR COLLEGE DAY SCHOOL ENROLLMENTS  
AND COMPLETERS BY DETAILED PROGRAM

USOE Code and Title	# of Programs		# of Students	
	Associate Degree	Certificate	1984-85 Enrollments	1984-85 Completers
170700 Commercial Art Occupations	2	3	98	12
170900 Commercial Photography	-	1	9	9
171002 Electricity	-	1	29	23
171300 Drafting	-	3	49	22
171900 Graphic Arts Occupations	3	1	239	54
172302 Machine Shop	1	-	25	7
172602 Cosmetology	-	1	22	17
SUBTOTAL TRADE AND INDUSTRY	6	10	471	144
GRAND TOTAL	282	64	22,740	5868

Colleges included in Tables 17 and 18 are the fifteen Community Colleges, Quincy Junior College and Franklin Institute





Fiscal Year 1985

TABLE 18

Community College Continuing Education Enrollments



TABLE 18

Fiscal Year 1985

COMMUNITY AND JUNIOR COLLEGE CONTINUING EDUCATION ENROLLMENTS  
BY MAJOR PROGRAM AREA

USOE Code and Title		1984-85 Enrollments
010000	Agriculture	0
040000	Distributive Education	456
070000	Health Occupations	437
090200	Occupational Consumer & Homemaking	382
140000	Office Occupations	7345
160000	Technical Occupations	3231
170000	Trade and Industry	395
TOTAL		12,246





## 5. Planning

The Division of Occupational Education required the completion of a comprehensive local plan by local school systems desiring federal funds to supplement (not supplant) local and state resources in addressing their established needs in vocational education. The purpose of the local plan was to address the Board of Education approved goals and objectives in vocational education set forth in the five-year State Plan for fiscal years 1983-1987.

Planning strategies on the local level included: (1) determining existing enrollment patterns and success in placement (by collecting annual vocational education student enrollment and follow-up data for submission to the State Department of Education); (2) determining employment needs by examining local labor market information to identify occupations with anticipated employment opportunities; and (3) determining programs to be offered by considering the existing enrollments and the needs of target populations (handicapped, disadvantaged, limited English proficient, females in nontraditional areas), and designing curricula and programs to address employment needs using available resources.

The results of the local planning effort included: (1) providing students with quality vocational education programs leading to realistic employment opportunities; (2) coordinating local training resources to meet students' needs; (3) improving the process for the distribution of federal programs; (5) consolidating and reducing paperwork; (6) establishing a realistic relationship between local needs and statewide strategies; and (7) encouraging coordination among vocational education delivery systems.

### Planning For the new Federal Vocational Education Act

The Carl D. Perkins Vocational Education Act, Public Law 98-524, was signed into law by President Reagan on October 19, 1985. This Act continues Federal assistance for vocational education through Fiscal Year 1989. The Act replaces the Vocational Education Act of 1963 and arrays the Federal involvement in vocational education around two broad themes. First, the Act is intended to make vocational education programs accessible to all persons, including handicapped and disadvantaged persons, single parents and homemakers, adults in need of training and retraining, persons participating in programs designed to eliminate sex bias and stereotyping in vocational education, and incarcerated persons. Second, the Act is intended to improve the quality of vocational education programs to give the Nation's workforce the marketable skills needed to improve productivity and promote economic growth.

The programs authorized under the Perkins Act went into effect on July 1, 1985. Although final regulations to implement this Act were not published by the United States Department of Education until August 16, 1985, a Three Year State Plan for Fiscal Year

1986 through 1988 was due by May 1, 1985. The State Board of Education, at their December, 1984 meeting, authorized public hearings on the development of the Three Year State Plan to be conducted in late January, 1985.

Two public hearings, January 23, 1985 in Springfield and January 25, 1985 in Quincy, were conducted for the purpose of affording all segments of the public and interested organizations and groups an opportunity to present their views and make recommendations regarding the development of a new State plan for vocational education. In addition to the oral and written testimony received at these two public hearings, the public was invited to submit written comments through January 30, 1985. A total of 188 individuals presented testimony at the public hearings and an additional 419 individuals submitted written testimony by January 30, 1985.

In addition to the period of public testimony, the Division of Occupational Education reviewed both state and local archived data, consulted with the staff of related state agencies and service organizations, and met with advisory committees and representatives from professional organizations. Further, in response to a need for increased coordination with agencies that administer related federal acts, the Division formed an Interagency Coordination Committee with representation from the following organizations:

Department of Education

Division of Curriculum and Instruction  
Division of Occupational Education  
Division of Special Education

Board of Regents of Higher Education

State Council on Vocational Education

Office of the Secretary of Labor

Office of Training and Employment Policy,  
Department of Economic Affairs

Massachusetts Rehabilitation Commission



This coordination committee will provide suggestions and recommendations for bringing about effective articulation between program levels and eliminating unwarranted duplication of effort at the variety of program settings represented by these organizations. The Interagency Coordination Committee met twice during the planning stages for the Three Year State Plan.

A complete description of these planning activities is presented in Section 3.0, Planning Process, of the State Plan for Vocational Education in Massachusetts For Fiscal Years 1986-1988. Appendix A to this Plan is a Summary of Recommendations from the Public and Responses of the State Board of Education.

### **Local Plan For Vocational Education**

A new local plan for vocational education, to cover the same period as the State Plan, is required from each participating agency (local school districts and community colleges). The information reported in this local plan includes: local advisory council composition and participation, assessment of student needs by population, program needs by labor market descriptions, other program needs, program improvement needs and plans, and collaboration with the other education and training institutions. This local plan should be developed and must be shared with the area agency for training and employment programs (Private Industry Council) and the information in this plan must be updated annually through the local application for federal vocational education funds.

The 'eligible recipients' that are required to complete the local plan represent the principal delivery system for vocational education in Massachusetts. Therefore, the Division of Occupational Education concentrates upon evaluation and monitoring of these local programs as a method of ensuring quality control over vocational education programs, services and activities. In addition, the Division's central point of review of these local plans illuminates the student and program needs which are consistent across the state and statewide program improvement activities (e.g. curriculum and personnel development) are then directed to those needs.

## **6. Procedures For Evaluating Vocational Programs**

The comprehensive and ongoing monitoring and evaluation of vocational programs has a central role in Massachusetts' administration of vocational education. This section describes the procedures used in the statewide monitoring and evaluation of

- A. State Chapter 74 programs and
- B. Federal Public Law 94-482 programs

### **A. State Chapter 74 Monitoring and Evaluation Process**

1. State Chapter 74 Monitoring Process: During fiscal year

A. State Chapter 74 Monitoring and Evaluation Process

1. State Chapter 74 Monitoring Process: During fiscal year 1985 the goal of the Division of Occupational Education was to formally monitor all operational Chapter 74 programs. Programs were monitored by means of desk audits and on-site reviews. This dual system approach achieved three results: (1) updating the Chapter 74 monitoring file, (2) noting any changes or variations in the operation of programs, and (3) determining any actions that should be taken regarding compliance issues and/or problem areas. This process was instituted during fiscal year 1976 and has continued each fiscal year.

Prior to initiating the monitoring process, a Chapter 74 program listing by school district was compiled from information gathered during the previous year. Information from prior years was further validated by comparing it with the school district's End of the Year Report and, when necessary, the October 1st Enrollment Report. Based on Chapter 74 approval factors, standardized monitoring instruments were sent to each school district with a memorandum of explanation. The superintendent and the occupational education coordinator were informed of this process. Throughout the process, on-going technical assistance was available to school districts on request. When the completed instruments were received at the regional center, they were reviewed for accuracy and compliance with Chapter 74 regulations.

During fiscal year 1985, 75 school districts operating Chapter 74 programs were monitored on-site in accordance with the Operational Plan. In addition to observing the programs in operation, monitoring instruments were reviewed and validated. The Occupational Education Team Leader coordinated the on-site visits through the occupational education liaison and the superintendent's office. Furthermore, if professionals needed to review the programs at the end of the monitoring process, the Division of Occupational Education was informed of the updated status of each region's Chapter 74 programs through a submitted report.

2. State Chapter 74 Evaluation Process In accordance with the State Department's Operational Plan, Chapter 74 program evaluations were conducted in 21 school districts. A goal of the evaluation process was to document compliance with Chapter 74



regulations in selective secondary schools. A secondary goal was to concentrate on those comprehensive school districts in the region operating one or more Chapter 74 programs.

B. Federal P.L. 94-482 Monitoring and Evaluation Process:

The effectiveness of Public Law 94-482 vocational education projects was evaluated through the completion of progress reports and on-site visits. Progress in achieving stated objectives as well as enrollment and financial data was reported. The sequence of the monitoring process is outlined as follows:

1. Award of Federal Funds Agreement Letter: Immediately after school district grant projects are formally approved by the Board of Education at their monthly meeting, school districts are sent Letters of Agreement to be signed and returned. Once the signed letters are returned, funds are released in accordance with a system of payment depending on the amount of the grant. Copies of the unsigned letters are sent to the Regional Center and school districts. In addition, the Regional Center is sent a monthly progress report on the status of the disseminated Letters of Agreement. If the letters have not been returned as expected, the school districts are contacted by the Regional Center.
2. Project Underway Form (Start-up Letter): The school district is instructed to complete the Project Underway Form to inform the Division of Occupational Education that the program is in the process of delivering services to students in accordance with stated objectives. When this letter is received, additional funds are released. This procedure can indicate any possible problems in the implementation of the project. Project Underway Forms are submitted to the Regional Center, processed, and sent to the Central Office.
3. Quarterly Progress Reports: The school district is required to complete and submit two Quarterly Progress Reports. The first Report must be completed in total, with the second report an update of the first. The report measures project expenditures against approved budgets, and enrollment figures in relationship to those projected to be served. These reports are submitted to the Regional Center where they are processed and sent to the Central Office with recommendations.



4. Project Line Item Change Request: During the fiscal year of the project, school districts are given an opportunity to amend each project through submission of a line-item change request. Such requests are submitted to the Regional Center, processed, and sent to the Central Office.
5. Project Extension Request: If the school district cannot implement the objectives of a project during the fiscal year, it may request an extension of time deemed necessary to complete the project. These requests are submitted to the Regional Center, reviewed, and sent to the Central Office.
6. Project Remediation Plan: When a review of submitted reports reveals that a project is not meeting its projected enrollment objectives (less than 75% of projections as a standard), action is taken. The school district is sent an Enrollment Remediation Plan Form to be completed and returned within 60 days. In this plan the school district is requested to document its strategies in resolving the enrollment deficiency. The Plan is submitted to the Regional Center, processed, and sent to the Central Office with recommendations. Central Office action is communicated to the Regional Center, and school districts are informed of the status of their submitted plan of action.
7. Project Final Program/Financial Report: Upon completion of the project a Final Program/Financial Report is mailed to the school district. The school district is given 30 days to complete the report. When received, the reports are recorded and sent to the central office for processing.

All reports identified in the monitoring process are put on file in the Regional Center's project file and Central Office master file. In addition, any related correspondence is kept on file at both locations.

Federal P.L. 94-482 Evaluation Process Each year a percentage of approved federal projects are evaluated on-site by the regional staff to validate project information stemming from the monitoring process. An explanation of the evaluation process follows:

1. During the summer, in accordance with the Operational Plan, a listing of school districts and federal projects identified for on-site evaluation is compiled. Approximately 271 school districts were monitored on-site. During the on-site evaluation of fiscal year 1985 projects, progress was reviewed, as well as compliance with assurances. The evaluation process takes place throughout the fiscal year.

2. The Occupational Education Team meets during the first part of September to establish an evaluation schedule and to designate appropriate responsibilities. The Occupational Education Team meets to discuss the evaluation process.
3. School districts selected for evaluation are formally notified of the on-site evaluation dates and, if necessary, adjustments are made. Evaluation teams are assigned to the school districts.
4. On the day scheduled for the on-site evaluation, evaluation instruments for each evaluated project are completed. A summary report is written and sent to the school district for response. Copies of the summary reports are sent to the Central Office for review. If there are any noted problems and/or compliance issues that need immediate attention, action is taken. All information is placed in project files.

## 7. Use of Evaluation Results to Improve Programs

A major purpose of the evaluation of federally-funded vocational projects is to provide recommendations that will lead to program improvement. The following examples illustrate ways in which the evaluation process led to improved programs.

### Auto Body Repair, Lower Pioneer Valley Education Collaborative

This project provided 38 collaborative member students in grades 10 and 11 with training in the auto body repair field. Training involved 2 3/4 hours per day hands-on experience with the latest unibody frame straightener and auto body damage repair equipment.

During the first on-site evaluation of this project, it was noted that the lighting in the shop area was poor and the number of students in relation to the physical size of the shop was above the generally accepted standards. As a result of recommendations made during this evaluation, the lighting in the shop was completely renovated with adequate fluorescent fixtures. And, the class size in relation to the area of the shop is now within the accepted area per pupil standards. These two physical changes in the shop facility have resulted in a better training experience for the student.

### Horticulture/Agriculture, Oxford Public Schools

This project trained 20 secondary students in all aspects of ornamental horticulture, including plant propagation, greenhouse management, and florist techniques. In addition, students were provided cooperative work experience in local



area greenhouses, landscape businesses, and florists. A program evaluation conducted by an audit team from the Central Massachusetts Regional Education Center resulted in two major recommendations that are currently being implemented:

(1.) The program will now have a separate teaching station that will serve as a lecture room as well as a work area for special projects.

(2.) A plant sales station has been added to the program. This station is located adjacent to the solar greenhouse and will be used periodically throughout the year by the students as a store front to sell plants, wreaths, potpourri, etc. to the general public.

These changes led to improved teaching areas and increased hands-on training experience.

#### Bilingual Paraprofessional, Boston Public Schools

This project provided bilingual assistance to 328 limited English proficient students enrolled in various vocational programs in four Boston area high schools. Four bilingual paraprofessionals (Spanish, Haitian, Cambodian, and Cape Verdean) assisted these limited English proficient students in developing sufficient English skills to succeed in regular vocational skills training programs. This assistance took on many forms, including translating and adapting curricula.

An evaluation of the project revealed that the workload was too large and the paraprofessionals were not being used to translate important materials. It was recommended that safety be the priority translation area and that all signs and instructions relating to safety be translated into as many native languages as possible. Further, it was suggested that language drills be introduced to familiarize linguistic minorities with the more common danger sounds. As a result of this recommendation, important safety rules were translated into Spanish, Vietnamese, Portuguese, Cambodian, and French.

#### Welding and Metal Fabrication, Gateway Regional

This project provided training in welding and metal fabrication to 15 students who were unable to be served by neighboring vocational schools. Funds were used to purchase essential equipment and program supplies; the school district provided the instructor and facilities.

An evaluation of the project produced three major recommendations:

(1.) Due to the increased enrollments, additional facility space was recommended and has subsequently been provided by the school district.

(2.) Supportive services were recommended and provided for target population students.

(3.) The program was encouraged to seek approval as an ongoing, state-supported Chapter 74 program.

#### Microcomputer Accounting, Harvard Public Schools

As part of this project, approximately 15 students enrolled in Bookkeeping and Accounting courses were provided hands-on experience with accounting software in a microcomputer laboratory. Students learned the fundamentals of accounting including general ledgers, accounts payable, accounts receivable, payroll, and inventory control.

An evaluation of the program revealed that attendance at the Harvard Vocational Advisory Committee meetings was poor during the past few years, partly because these meetings were scheduled during lunch or during the evening. As a result of this poor attendance, the advisory committee was having only a minimal impact on vocational programming.

A recommendation was made during an evaluation visit to hold the advisory committee meetings at the Superintendent's office early in the morning rather than later in the day. The Superintendent scheduled a 7:30 a.m. breakfast meeting, and he later reported that there was 100% attendance as well as significant programmatic input. A subsequent advisory committee meeting was also well attended and was labeled a success by the Superintendent.

#### Project Support, Andover Public Schools

This project was designed to provide handicapped business education students with individualized support services needed to enable them to increase their proficiency in typing and clerical skills. Ten male students and twelve female students in grades 10, 11 and 12 received these services prior to mainstreaming into their regular vocational program.

As a result of monitoring the project, it was suggested that students' hands-on time developing these business skills should be increased at selected job sites throughout the school. This increased hands-on training helped students successfully complete their assigned clerical tasks. Of the 8 students who completed the program in fiscal year 1985, four are employed, one is in the army, and others are pursuing additional education.



Recycle, Cambridge Public Schools

This continuing project involved the renovation of an existing home in the community. This site work provided 32 students (including 9 females) with skill training in wall and floor framing, insulation, window and door finishing, drywalling, and interior finishing. The site training was supplemented with regular classroom and shop carpentry instruction.

As a result of an evaluation of the program, plans were undertaken to expand the project to include additional topics in renovation constructional techniques. In addition, the funding for this project has in part been assumed by the local school district.

Limited English Proficiency Assistance, Springfield Public Schools

This project was designed to provide up to 60 limited English proficient students in grades 10-12 with supportive language and communication skills training, which would enable them to successfully complete vocational skills programs. A bilingual instructor provided students five hours per week of individualized reading, language, and communication skills training.

The initial evaluation of the project revealed that students demonstrated a high level of interest in the training, and showed some improvement in their understanding of shop concepts and related coursework. However, both the students and the instructor felt there were not enough basic texts that were generic in nature that would improve the reading and English foundations of the students prior to using shop assigned or academic texts. When apprised of this problem, the Director of Occupational Education for Springfield Public Schools obtained the shared use of instructional supplies and appropriate texts that had been purchased for other federal projects.

Data Entry Training, Stoughton Public Schools

This project provided fifty-three students with hands-on training for employment in data entry occupations.

As a result of an on-site monitoring visit, the project was requested to seek approval as an on-going, state-aided Chapter 74 vocational program. This recommendation led to the development of a sequence of courses in grades 9-12 in Computer Keyboarding, Data Processing I and II, and Basic Programming. The local school district also purchased additional equipment, restructured a computer laboratory, and provided the necessary training and time requirements to meet state Chapter 74 requirements.



## 8. Student and Employer Follow-Up

The Department of Education routinely collects and analyzes information about the job placement of vocational program completers and the attitudes of students and employers about the effectiveness of these programs. During fiscal year 1985 three types of student and employer follow-up studies were undertaken:

- A. Placement of Secondary Student Completers of Chapter 74 Programs Immediately Upon Graduation
- B. One Year Follow-Up of Secondary and Postsecondary Student Completers
- C. Secondary Completer/Leaver and Employer Satisfaction Surveys

### A. Placement of Secondary Student Completers Immediately Upon Graduation

Beginning with school year 1983-84, the Division of Occupational Education began conducting a special survey of some schools on the placement of secondary level Chapter 74 program completers immediately upon graduation. This information supplements the one year follow-up study (described in the next section).

This section briefly summarizes the results of this special placement survey for school year 1984-85. Overall, the placement results for 1984-85 provided an encouraging picture of the short term effectiveness of Chapter 74 vocational programs: 92.2% of program completers were "positive placements" immediately upon graduation (in the military, employed, or pursuing additional education).

The request for information about the placement of completers of secondary level Chapter 74 approved vocational programs was sent to those 60 schools that offer five or more Chapter 74 programs. These schools included: all 27 regional vocational-technical schools, 4 regional academic schools, 24 local public schools, 3 vocational-agricultural schools, and 2 independent vocational school systems.

For each Chapter 74 program offered, schools were asked to indicate the placement status of all program completers based on the best information currently available to them. Most schools reported using a combination of several sources of information including: contacts with employers, reports from the school's job placement specialist, coop records, guidance office records, telephone calls to student

completers, instructors' first hand knowledge, interviews with students at time of graduation, school's own surveys of students shortly before or soon after graduation, and informal contact with students. The data provided by these 60 schools represents placement information on about 77 different Chapter 74 program areas, for over 9,000 student completers.

Schools classified the placement status upon graduation of completers into seven categories.

1. **MILITARY:** student is in the military full-time. Regardless of the type of work the student performs as part of his/her military service, the student is counted for this category only.
2. **EMPLOYED IN FIELD RELATED TO TRAINING:** student is employed either full- or part-time in a job related to his/her training and may or may not also be pursuing additional education.
3. **EMPLOYED IN FIELD NOT RELATED TO TRAINING:** student is employed in a field not related to his/her training and is not pursuing additional education.
4. **PURSuing ADDITIONAL EDUCATION:** (a) student is pursuing additional education full-time, or (2) student is employed in field not related to training and pursuing additional education, or (3) student is unemployed (seeking employment) and pursuing additional education, or (4) student is not in the labor force (and not seeking employment) and pursuing additional education.
5. **UNEMPLOYED:** student is seeking employment and is not pursuing additional education.
6. **NOT IN LABOR FORCE:** student is not employed, not seeking employment, and is not pursuing additional education.
7. **STATUS UNKNOWN:** the employment status of the student is unknown on the basis of the best information currently available.

A "positive placement" was defined as the completer's placement falling into one of these four categories: military, employed in field related to training, employed in field not related to training, or pursuing additional education.



The results of this special placement survey are shown in Tables 19 to 22 and Figures 1-9, and are summarized below.

- o Overall, 92.2% of the 9,000 Chapter 74 program completers for school year 1984-85 were "positive placements" immediately upon graduation (that is, in the military, employed, or pursuing additional education). More specifically,
  - o 4.6% were in the military
  - o 61.6% were employed in jobs related to their training
  - o 12.9% were employed in jobs not directly related to their training
  - o 13.1% were pursuing additional education
  - o 3.7% were unemployed
  - o 2.1% were not in the labor force
  - o 1.9% were of unknown placement status

There were some notable differences among major program areas in the patterns of placement of completers. Agriculture and Trade & Industry program areas had the largest percentages of completers employed in jobs related to training (73.2% and 63.5%, respectively). Occupational Preparation Homemaking programs and Health Occupation programs had the lowest percentages of completers employed in jobs related to training (37.5% and 49.7%, respectively), but these areas also had the highest percentages of completers pursuing additional education (25.0% and 26.8%).

The overall unemployment rate for these 9,000 vocational program completers was only 3.7%, but ranged from a low of 3.3% for Health Occupation programs to a high of 7.0% for Occupational Preparation Homemaking programs.

- o The placement status of completers varied extensively by type of Chapter 74 program. Table 20 details this variability in placement among programs. For example, whereas 77.8% of the 225 students who completed a Plumbing and Pipefitting program were placed in jobs related to training, only 42.6% of the 195 completers of a Health Aide program were placed in jobs related to training.
- o Placement rates varied somewhat by type of school where the Chapter 74 program was completed. Placement of students in jobs related to their training was highest for regional vocational-technical schools (63.9%) and vocational-agricultural schools (84.4%), and was lowest for comprehensive high schools (54.4%). Conversely, comprehensive high schools reported a higher percentage of completers pursuing additional education (16.5%) than either vocational-agricultural schools (5.4%) or regional vocational-technical schools (12.5%).

- Overall, the patterns of placement of completers were consistent between school year 1983-84 and school year 1984-85. The most notable difference was a decline in the unemployment rate, from 5.4% in 1983-84 to only 3.7% in 1984-85. This seemingly small difference in unemployment rates actually represents about 153 student completers in school year 1984-85 who were spared from unemployment.

Within major program areas, however, there were some large and notable shifts in the patterns of placement between school year 1983-84 and school year 1984-85. These differences were most pronounced for the Occupational Preparation Homemaking program area, where the percentage of completers employed in jobs related to training dropped from 54.9% in 1983-84 to 37.5% in 1984-85.

- The 60 schools varied greatly in the placement of completers both overall and on a program-by-program basis. Overall, the percentage of completers placed in jobs related to training ranged from a low of 28.5% for one school to a high of 97.3% for another school. Similarly, overall unemployment rates ranged from a low of 0% for several schools to 18.8% for one school.

On a program-by-program basis, there were also large and notable differences among schools. For example, 37 of the 60 schools offered and reported placement information for a Body and Fender Repair program. Yet, the percentage of completers placed in jobs related to Body and Fender Repair training ranged from 0% to 100% among the 37 schools. Similarly, the unemployment rate ranged from 0% for several schools to 37.5% for one school offering a Body and Fender Repair program.

Information comparing individual school's overall placement with statewide averages has been forwarded to the 60 schools included in the study. Detailed information on each school's placement rates for each vocational program it offered has been forwarded to regional education personnel for review and use as part of their monitoring and evaluation of these schools.



FISCAL YEAR 1985

TABLE 19 and FIGURES 1-7

Placement of Chapter 74 Program Completers

- o OVERALL
- o BY MAJOR PROGRAM AREA



TABLE 19

PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
FOR SCHOOL YEAR 1984-85

BY MAJOR PROGRAM AREA \*\*

MAJOR PROGRAM AREA	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
AGRICULTURE								
Number of Completers	321	8	235	16	37	16	3	6
Percentage		2.5	73.2	5.0	11.5	5.0	.9	1.9
DISTRIBUTIVE EDUCATION								
Number of Completers	488	12	276	55	108	23	4	10
Percentage		2.5	56.6	11.3	22.1	4.7	.8	2.0
HEALTH OCCUPATIONS								
Number of Completers	392	5	195	57	105	13	8	9
Percentage		1.3	49.7	14.5	26.8	3.3	2.0	2.3
OCC PREP HOMEMAKING								
Number of Completers	200	4	75	42	50	14	8	7
Percentage		2.0	37.5	21.0	25.0	7.0	4.0	3.5
TECHNICAL OCCUPATIONS								
Number of Completers	556	10	297	60	138	25	9	17
Percentage		1.8	53.4	10.8	24.8	4.5	1.6	3.1
TRADE & INDUSTRY								
Number of Completers	7,044	375	4,470	929	741	245	160	125
Percentage		5.3	63.5	13.2	10.5	3.5	2.3	1.8
**TOTAL**								
Number of Completers	9,001	414	5,548	1,159	1,179	336	192	174
Percentage		4.6	61.6	12.9	13.1	3.7	2.1	1.9

\*\*NOTE: This placement study used the federal classification system for vocational programs. Many of the programs classified as "Trade & Industry" are now dominated by technology and may be considered as technical subjects.





FIGURE 1

# PLACEMENT OF CH. 74 PROGRAM COMPLETERS \*\*

ALL PROGRAMS COMBINED

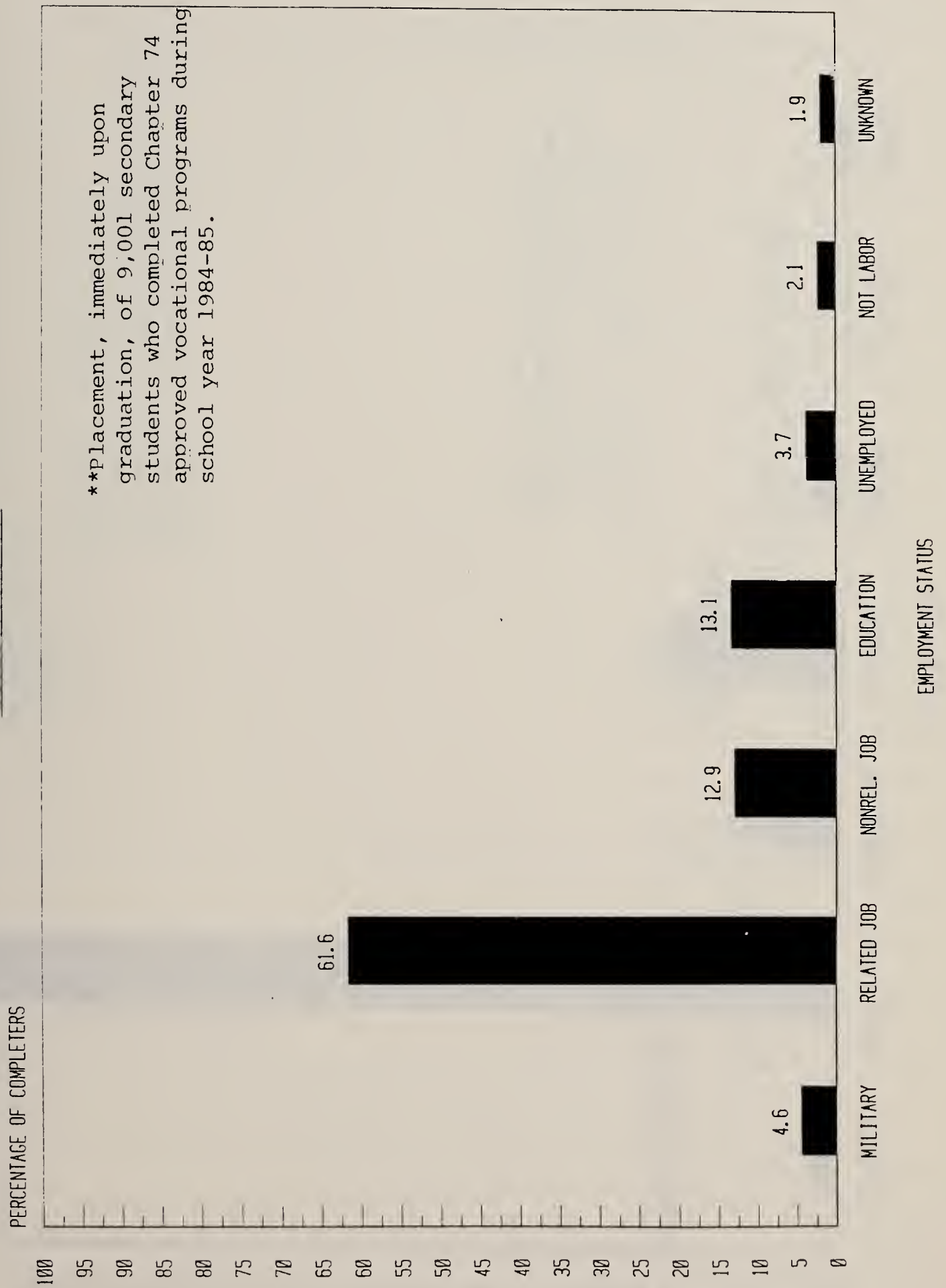


FIGURE 2

# PLACEMENT OF CH. 74 PROGRAM COMPLETERS \*\*

## AGRICULTURE PROGRAMS

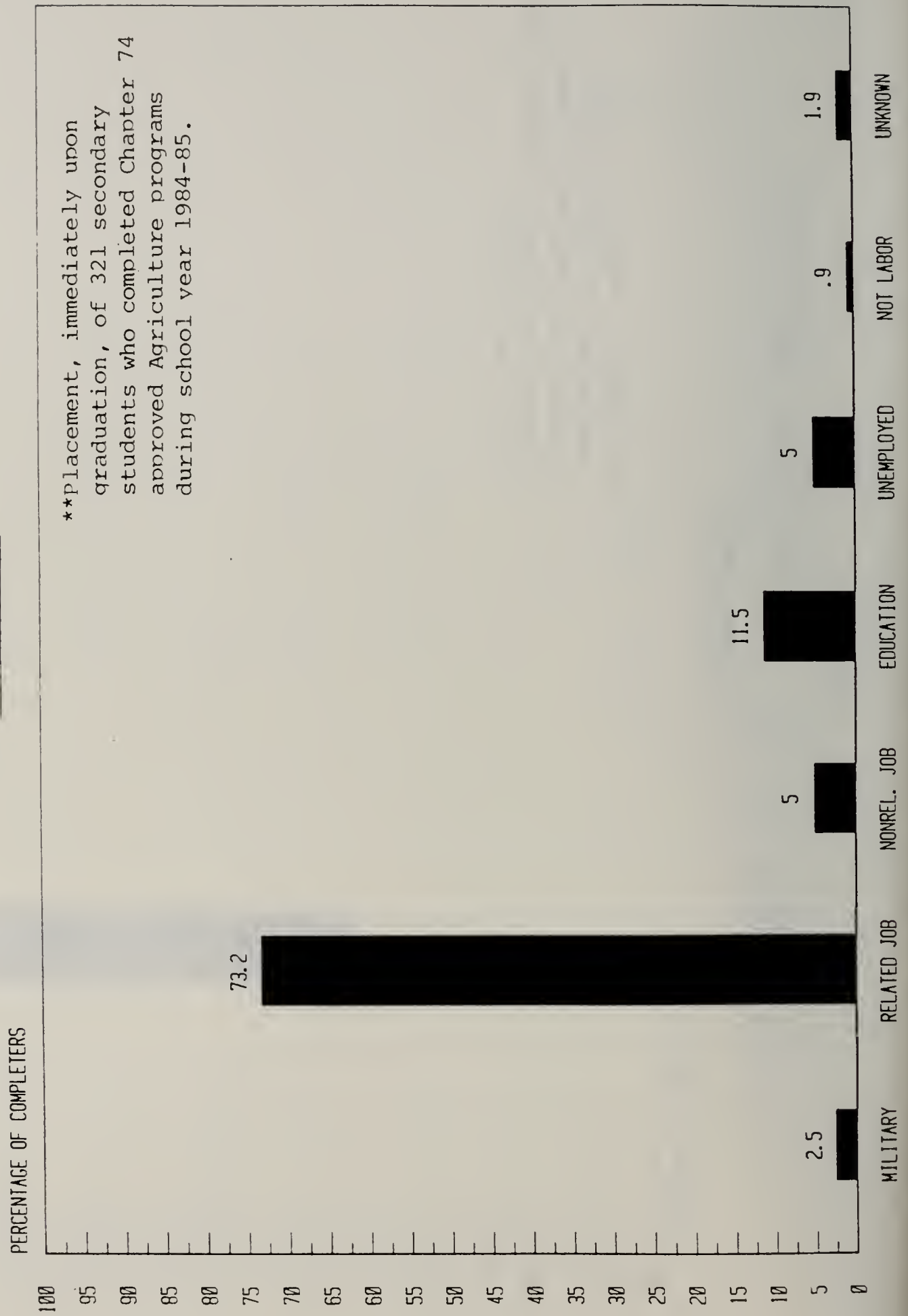


FIGURE 3

# PLACEMENT OF CH. 74 PROGRAM COMPLETERS\*\*

DISTRIBUTIVE EDUCATION

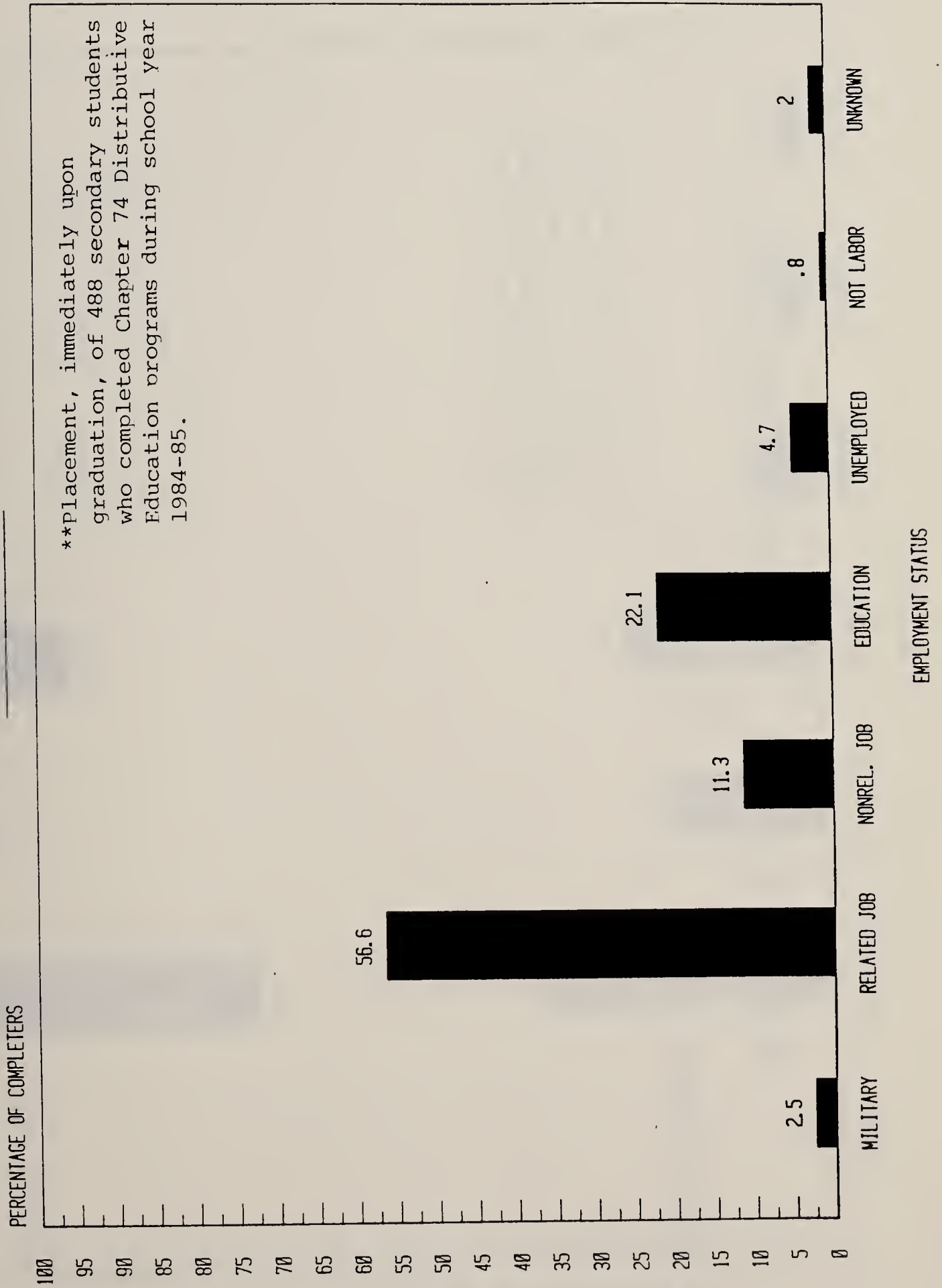


FIGURE 4  
**PLACEMENT OF CH. 74 PROGRAM COMPLETERS \*\***

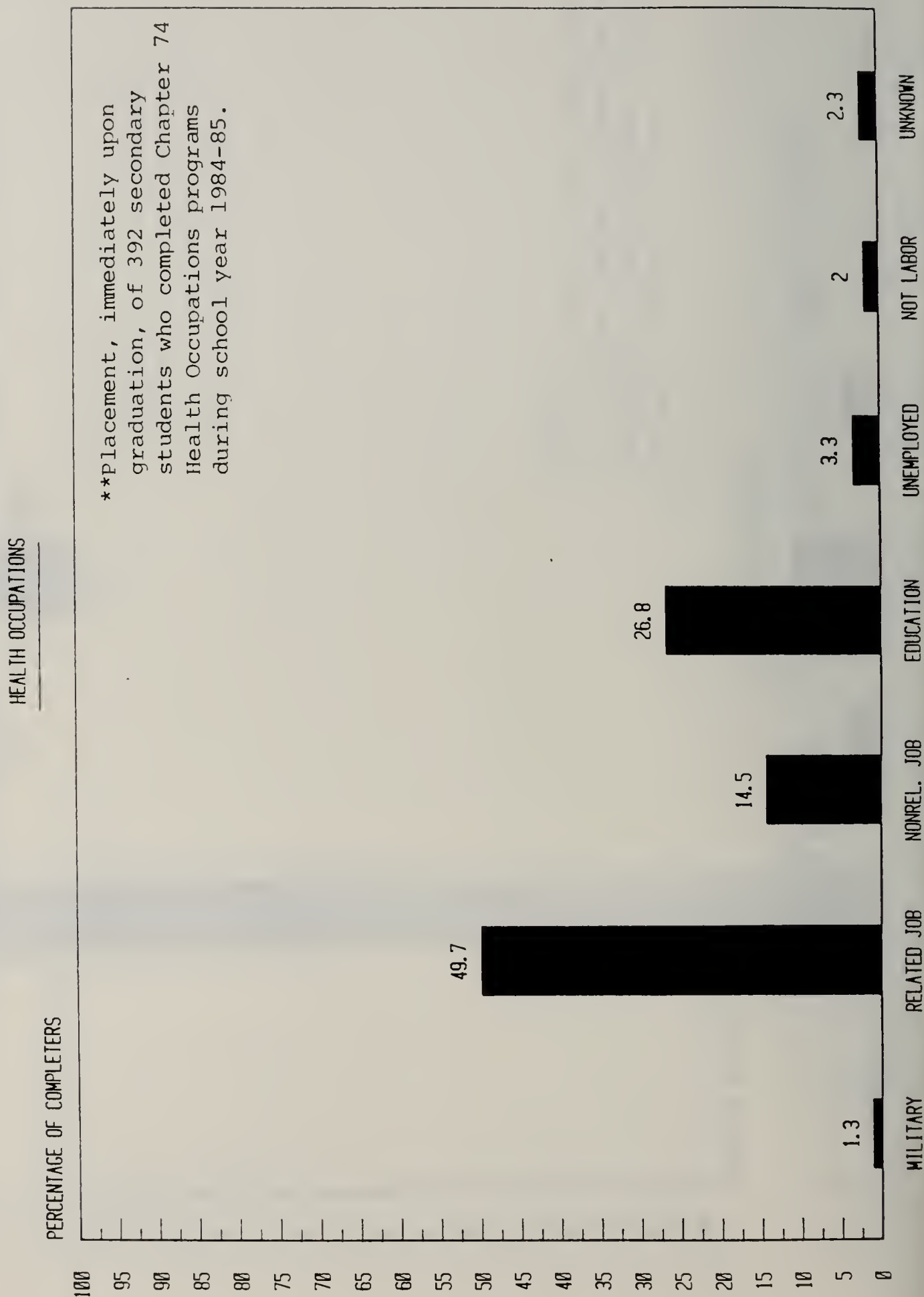




FIGURE 5

# PLACEMENT OF CH. 74 PROGRAM COMPLETERS \*\*

OCC PREP HOMEMAKING

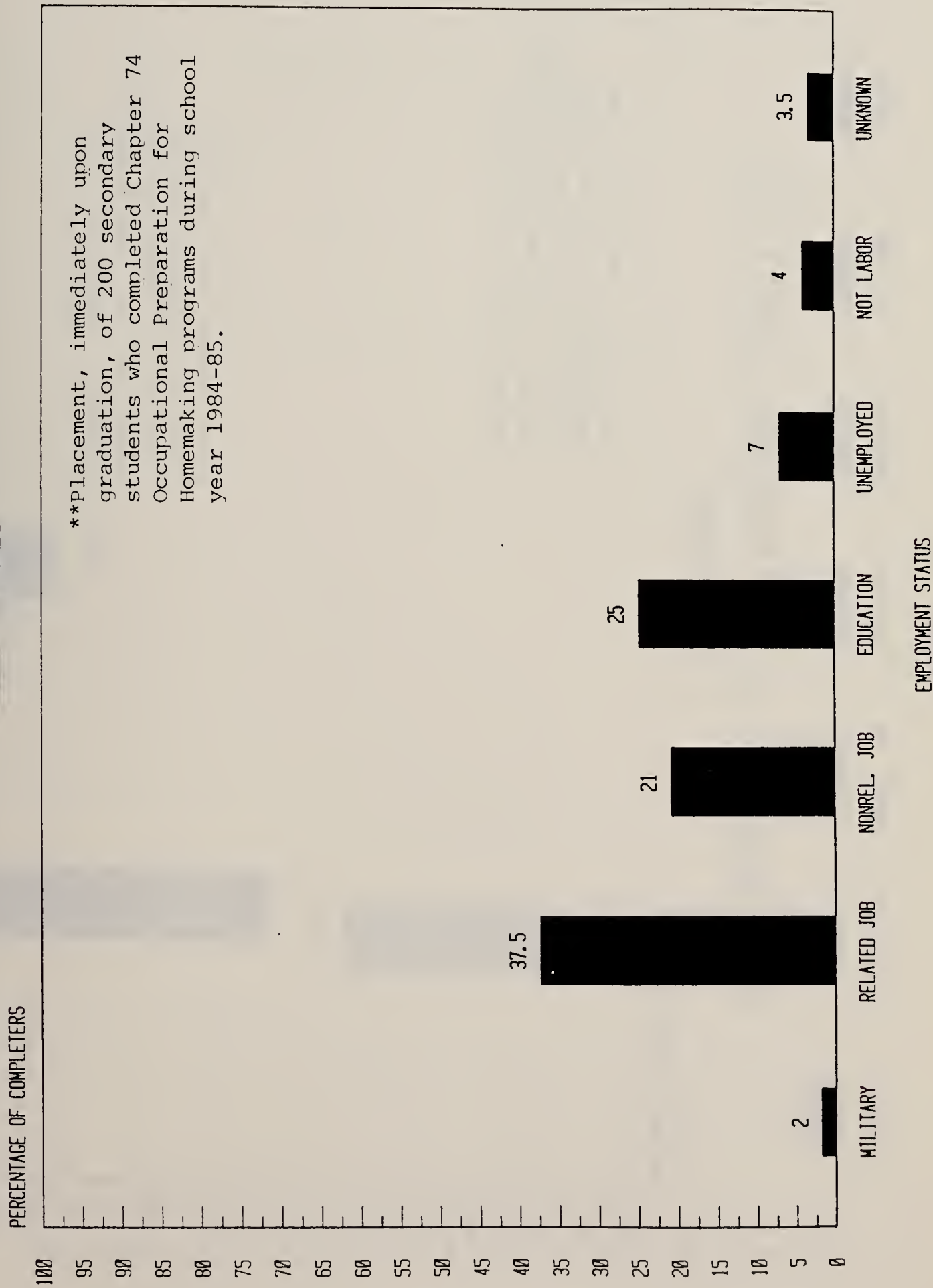


FIGURE 6  
PLACEMENT OF CH. 74 PROGRAM COMPLETERS \*\*

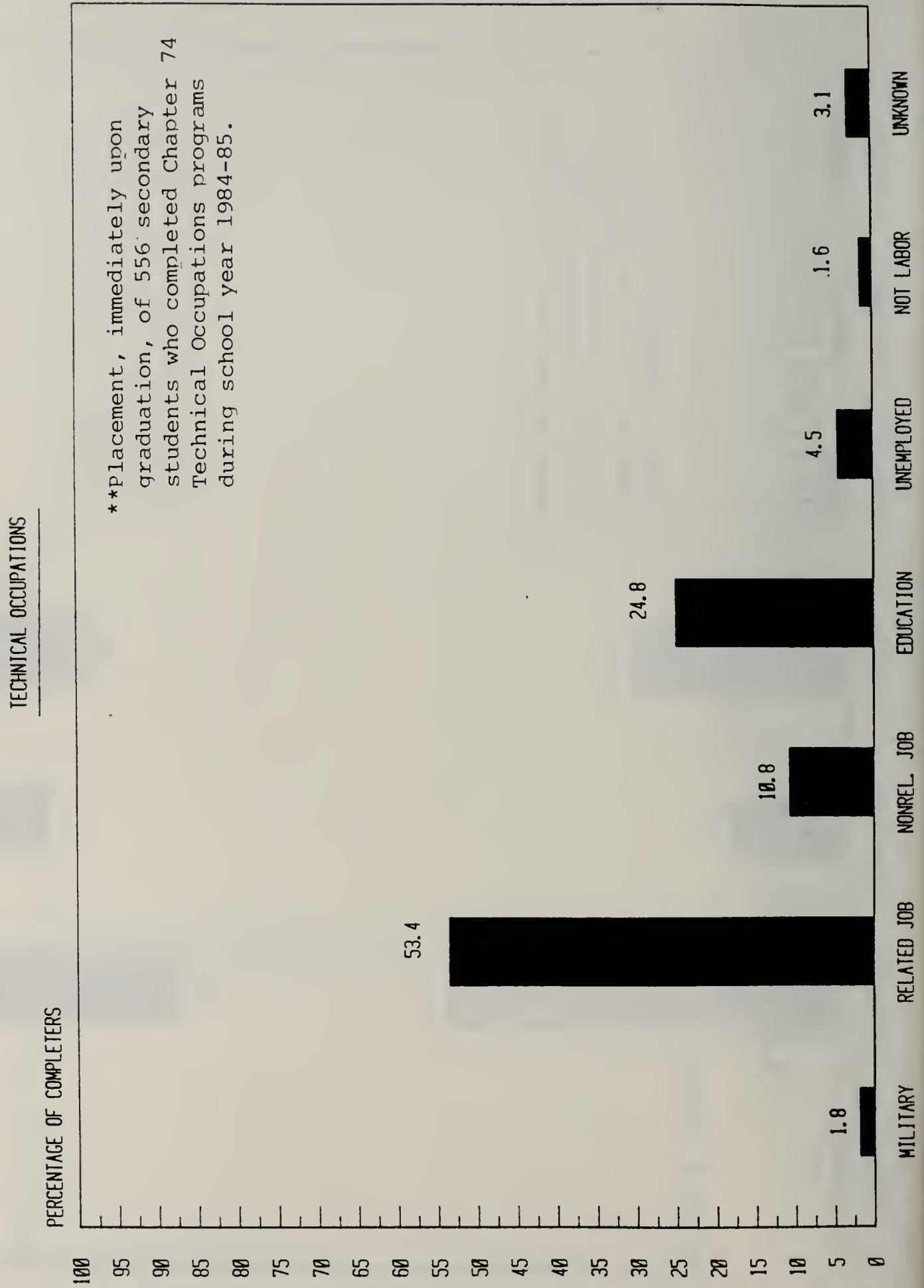
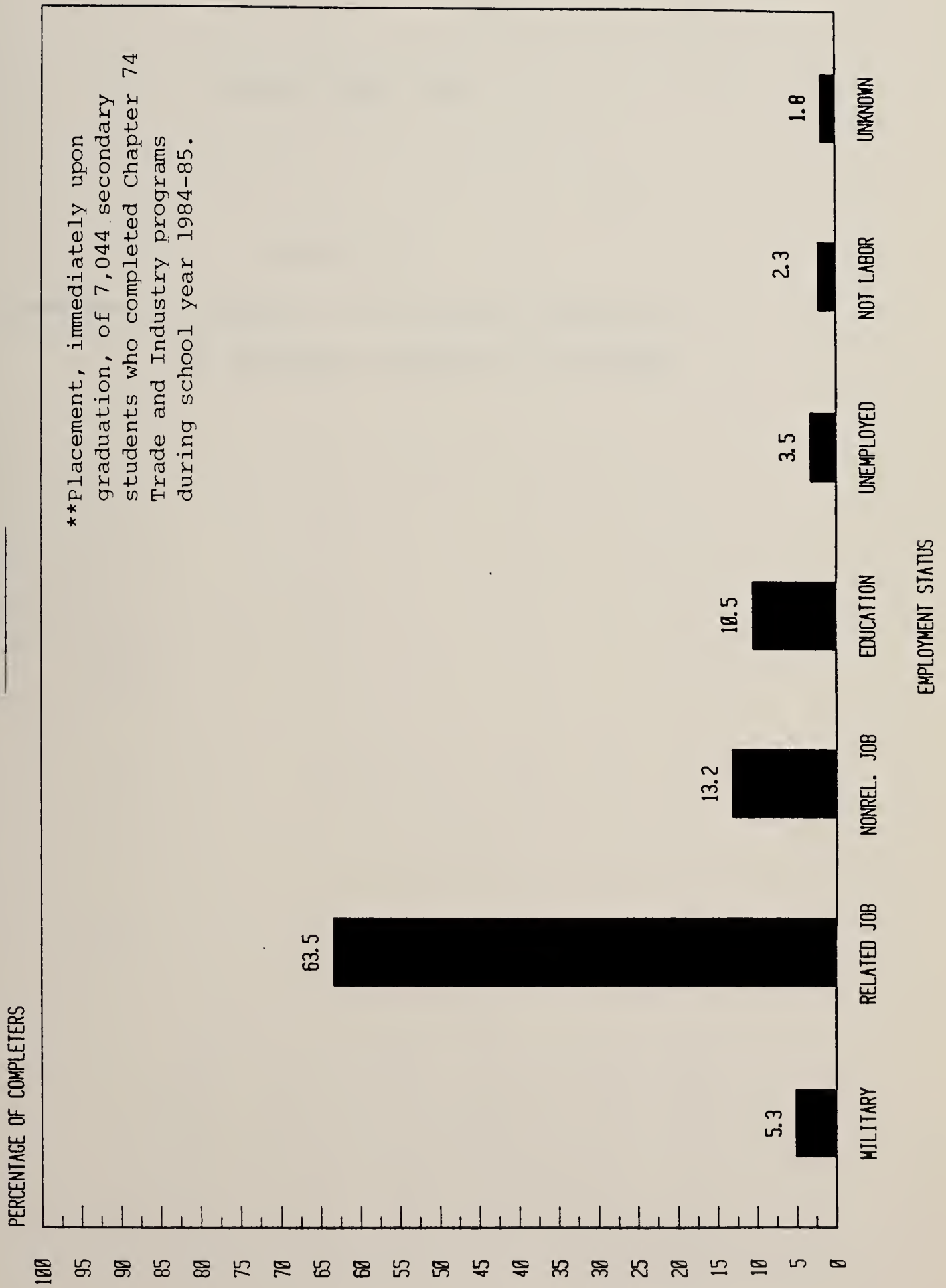


FIGURE 7

# PLACEMENT OF CH. 74 PROGRAM COMPLETERS\*\*

TRADE AND INDUSTRY







FISCAL YEAR 1985

TABLE 20

Placement of Chapter 74 Program Completers

o BY SPECIFIC CHAPTER 74 PROGRAM



TABLE 20  
PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
FOR SCHOOL YEAR 1984-85  
BY CHAPTER 74 PROGRAM

CH. 74 PROGRAM	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
010100 AGRIC. PRODUCTION NUMBER OF COMPLETERS PERCENTAGE	56	1 1.8	48 85.7	2 3.6	2 3.6	1 1.8	0 0	2 3.6
010101 ANIMAL SCIENCE NUMBER OF COMPLETERS PERCENTAGE	33	1 3.0	21 63.6	2 6.1	5 15.2	3 9.1	1 3.0	0 0
010102 PLANT SCIENCE NUMBER OF COMPLETERS PERCENTAGE	3	0 0	3 100.0	0 0	0 0	0 0	0 0	0 0
010198 SMALL ANIMAL SCIENCE NUMBER OF COMPLETERS PERCENTAGE	25	1 4.0	16 64.0	0 0	8 32.0	0 0	0 0	0 0
010199 POULTRY SCIENCE NUMBER OF COMPLETERS PERCENTAGE	4	0 0	3 75.0	0 0	0 0	1 25.0	0 0	0 0
010300 AGRIC MECHANICS NUMBER OF COMPLETERS PERCENTAGE	15	0 0	10 66.7	2 13.3	0 0	3 20.0	0 0	0 0
010500 HORTICULTURE NUMBER OF COMPLETERS PERCENTAGE	99	3 3.0	59 59.6	9 9.1	20 20.2	3 3.0	2 2.0	3 3.0

TABLE 20

PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
FOR SCHOOL YEAR 1984-85

BY CHAPTER 74 PROGRAM

CH. 74 PROGRAM	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
010501 ARBORICULTURE NUMBER OF COMPLETERS PERCENTAGE	5	0 0	4 80.0	0 0	0 0	1 20.0	0 0	0 0
010502 FLORICULTURE NUMBER OF COMPLETERS PERCENTAGE	26	0 0	23 88.5	1 3.8	0 0	2 7.7	0 0	0 0
010504 LANDSCAPING NUMBER OF COMPLETERS PERCENTAGE	27	1 3.7	24 88.9	0 0	0 0	2 7.4	0 0	0 0
010600 AGRIC RESOURCES NUMBER OF COMPLETERS PERCENTAGE	4	0 0	3 75.0	0 0	0 0	0 0	0 0	1 25.0
010700 FORESTRY NUMBER OF COMPLETERS PERCENTAGE	16	0 0	16 100.0	0 0	0 0	0 0	0 0	0 0
019900 OTHER AGRICULTURE NUMBER OF COMPLETERS PERCENTAGE	8	1 12.5	5 62.5	0 0	2 25.0	0 0	0 0	0 0
040200 APPAREL & ACCESS. NUMBER OF COMPLETERS PERCENTAGE	1	0 0	1 100.0	0 0	0 0	0 0	0 0	0 0



TABLE 20

PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
FOR SCHOOL YEAR 1984-85

## BY CHAPTER 74 PROGRAM

CH. 74 PROGRAM	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
040400 FINANCE & CREDIT NUMBER OF COMPLETERS PERCENTAGE	8	0 0	4 50.0	4 50.0	0 0	0 0	0 0	0 0
040700 FOOD SERVICES NUMBER OF COMPLETERS PERCENTAGE	45	1 2.2	20 44.4	3 6.7	19 42.2	2 4.4	0 0	0 0
040800 GENERAL MERCHANDISE NUMBER OF COMPLETERS PERCENTAGE	430	11 2.6	250 58.1	47 10.9	89 20.7	19 4.4	4 .9	10 2.3
041100 HOTEL & LODGING NUMBER OF COMPLETERS PERCENTAGE	4	0 0	1 25.0	1 25.0	0 0	2 50.0	0 0	0 0
070101 DENTAL ASSISTANT NUMBER OF COMPLETERS PERCENTAGE	4	0 0	3 75.0	0 0	1 25.0	0 0	0 0	0 0
070303 NURSING ASST. NUMBER OF COMPLETERS PERCENTAGE	158	2 1.3	84 53.2	17 10.8	41 25.9	6 3.8	2 1.3	6 3.8
070600 OPHTHALMIC NUMBER OF COMPLETERS PERCENTAGE	7	0 0	7 100.0	0 0	0 0	0 0	0 0	0 0

TABLE 20

PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
FOR SCHOOL YEAR 1984-85

BY CHAPTER 74 PROGRAM

CH. 74 PROGRAM	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
070904 MEDICAL ASST. NUMBER OF COMPLETERS PERCENTAGE	28	0 0	18 64.3	3 10.7	5 17.9	2 7.1	0 0	0 0
070906 HEALTH AIDE NUMBER OF COMPLETERS PERCENTAGE	195	3 1.5	83 42.6	37 19.0	58 29.7	5 2.6	6 3.1	3 1.5
090201 CARE & GUID. CHILDREN NUMBER OF COMPLETERS PERCENTAGE	92	1 1.1	31 33.7	23 25.0	27 29.3	6 6.5	3 3.3	1 1.1
090202 CLOTHING MGT, PROD NUMBER OF COMPLETERS PERCENTAGE	50	1 2.0	13 26.0	16 32.0	11 22.0	4 8.0	1 2.0	4 8.0
090203 FOOD MGT, PROD NUMBER OF COMPLETERS PERCENTAGE	26	2 7.7	7 26.9	1 3.8	11 42.3	3 11.5	1 3.8	1 3.8
090205 INST & HOME MGT NUMBER OF COMPLETERS PERCENTAGE	26	0 0	20 76.9	0 0	1 3.8	1 3.8	3 11.5	1 3.8
090299 OTHER HOMEMAKING NUMBER OF COMPLETERS PERCENTAGE	6	0 0	4 66.7	2 33.3	0 0	0 0	0 0	0 0

TABLE 20

PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
FOR SCHOOL YEAR 1984-85

BY CHAPTER 74 PROGRAM

CH. 74 PROGRAM	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
160103 ARCHITECTURAL TECH NUMBER OF COMPLETERS PERCENTAGE	11 0	0 0	9 81.8	1 9.1	1 9.1	0 0	0 0	0 0
160105 CHEMICAL TECH NUMBER OF COMPLETERS PERCENTAGE	10 0	0 0	10 100.0	0 0	0 0	0 0	0 0	0 0
160107 ELECTRICAL TECH NUMBER OF COMPLETERS PERCENTAGE	9 0	0 0	9 100.0	0 0	0 0	0 0	0 0	0 0
160108 ELECTRONIC TECH NUMBER OF COMPLETERS PERCENTAGE	24 1	4.2 4.2	6 25.0	3 12.5	8 33.3	4 16.7	0 0	2 8.3
160109 ELECTROMECHANICAL NUMBER OF COMPLETERS PERCENTAGE	3 0	0 0	2 66.7	0 0	1 33.3	0 0	0 0	0 0
160117 SCIENTIFIC DATA NUMBER OF COMPLETERS PERCENTAGE	19 1	5.3 5.3	5 26.3	1 5.3	5 26.3	6 31.6	0 0	1 5.3
160401 PROGRAMMER NUMBER OF COMPLETERS PERCENTAGE	384 7	1.8 1.8	187 48.7	48 12.5	104 27.1	15 3.9	9 2.3	14 3.6

TABLE 20

PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
FOR SCHOOL YEAR 1984-85

BY CHAPTER 74 PROGRAM

CH. 74 PROGRAM	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
169903 PACKAGING TECH NUMBER OF COMPLETERS PERCENTAGE	9	0 0	4 44.4	3 33.3	2 22.2	0 0	0 0	0 0
169904 RADIO & TV PROD NUMBER OF COMPLETERS PERCENTAGE	8	1 12.5	2 25.0	0 0	5 62.5	0 0	0 0	0 0
169907 BUSINESS TECH NUMBER OF COMPLETERS PERCENTAGE	79	0 0	63 79.7	4 5.1	12 15.2	0 0	0 0	0 0
170100 AIR CONDITIONING NUMBER OF COMPLETERS PERCENTAGE	144	7 4.9	91 63.2	23 16.0	19 13.2	2 1.4	2 1.4	0 0
170200 APPLIANCE REPAIR NUMBER OF COMPLETERS PERCENTAGE	46	7 15.2	22 47.8	8 17.4	5 10.9	0 0	1 2.2	3 6.5
170301 BODY & FENDER NUMBER OF COMPLETERS PERCENTAGE	332	19 5.7	233 70.2	51 15.4	12 3.6	8 2.4	6 1.8	3 .9
170302 AUTO MECHANICS NUMBER OF COMPLETERS PERCENTAGE	633	40 6.3	444 70.1	67 10.6	39 6.2	13 2.1	19 3.0	11 1.7



TABLE 20

PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
FOR SCHOOL YEAR 1984-85

BY CHAPTER 74 PROGRAM

	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
CH. 74 PROGRAM								
170700 COMMER. ART NUMBER OF COMPLETERS PERCENTAGE	193	7 3.6	71 36.8	44 22.8	55 28.5	6 3.1	3 1.6	7 3.6
170900 COMMER. PHOTO NUMBER OF COMPLETERS PERCENTAGE	5	0 0	2 40.0	1 20.0	2 40.0	0 0	0 0	0 0
171001 CARPENTRY NUMBER OF COMPLETERS PERCENTAGE	676	40 5.9	483 71.4	65 9.6	53 7.8	14 2.1	7 1.0	14 2.1
171002 ELECTRICITY NUMBER OF COMPLETERS PERCENTAGE	323	16 5.0	239 74.0	19 5.9	32 9.9	2 .6	7 2.2	8 2.5
171003 HEAVY EQUIP OPER NUMBER OF COMPLETERS PERCENTAGE	19	0 0	14 73.7	1 5.3	0 0	0 0	1 5.3	3 15.8
171004 MASONRY NUMBER OF COMPLETERS PERCENTAGE	63	5 7.9	48 76.2	6 9.5	1 1.6	0 0	3 4.8	0 0
171005 PAINTING & DECOR. NUMBER OF COMPLETERS PERCENTAGE	123	2 1.6	61 49.6	32 26.0	10 8.1	9 7.3	4 3.3	5 4.1

TABLE 20

PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
FOR SCHOOL YEAR 1984-85

BY CHAPTER 74 PROGRAM

CH. 74 PROGRAM	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
171007 PLUMBING & PIPE. NUMBER OF COMPLETERS PERCENTAGE	225	4 1.8	175 77.8	22 9.8	12 5.3	4 1.8	4 1.8	4 1.8
171099 CONSTR & MAINT NUMBER OF COMPLETERS PERCENTAGE	110	6 5.5	76 69.1	12 10.9	6 5.5	6 5.5	1 .9	3 2.7
171100 CUSTODIAL SERVICES NUMBER OF COMPLETERS PERCENTAGE	1	0 0	1 100.0	0 0	0 0	0 0	0 0	0 0
171200 DIESEL MECHANIC NUMBER OF COMPLETERS PERCENTAGE	54	2 3.7	34 63.0	9 16.7	1 1.9	1 1.9	2 3.7	5 9.3
171300 DRAFTING OCCUP NUMBER OF COMPLETERS PERCENTAGE	346	10 2.9	184 53.2	40 11.6	82 23.7	22 6.4	5 1.4	3 .9
171400 ELECTRICAL OCCUP NUMBER OF COMPLETERS PERCENTAGE	243	14 5.8	167 68.7	21 8.6	21 8.6	16 6.6	1 .4	3 1.2
171500 ELECTRONIC OCCUP NUMBER OF COMPLETERS PERCENTAGE	532	33 6.2	250 47.0	77 14.5	143 26.9	16 3.0	5 .9	8 1.5

TABLE 20

PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
FOR SCHOOL YEAR 1984-85

BY CHAPTER 74 PROGRAM

CH. 74 PROGRAM	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
171503 RADIO & TV REPAIR NUMBER OF COMPLETERS PERCENTAGE	26	0 0	17 65.4	5 19.2	1 3.8	1 3.8	2 7.7	0 0
171900 GRAPHIC ARTS NUMBER OF COMPLETERS PERCENTAGE	390	22 5.6	222 56.9	63 16.2	53 13.6	19 4.9	6 1.5	5 1.3
171902 PRINTING PRESS NUMBER OF COMPLETERS PERCENTAGE	55	2 3.6	40 72.7	3 5.5	4 7.3	0 0	4 7.3	2 3.6
172100 INSTRU MAINT NUMBER OF COMPLETERS PERCENTAGE	5	0 0	1 20.0	0 0	3 60.0	0 0	0 0	1 20.0
172200 MARITIME OCCUP NUMBER OF COMPLETERS PERCENTAGE	37	1 2.7	22 59.5	9 24.3	4 10.8	1 2.7	0 0	0 0
172302 MACHINE SHOP NUMBER OF COMPLETERS PERCENTAGE	605	52 8.6	410 67.8	76 12.6	28 4.6	23 3.8	10 1.7	6 1.0
172303 MACHINE TOOL NUMBER OF COMPLETERS PERCENTAGE	32	2 6.3	25 78.1	1 3.1	1 3.1	3 9.4	0 0	0 0

TABLE 20

PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
FOR SCHOOL YEAR 1984-85

BY CHAPTER 74 PROGRAM

CH. 74 PROGRAM	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
172305 SHEET METAL NUMBER OF COMPLETERS PERCENTAGE	147	6 4.1	107 72.8	16 10.9	4 2.7	3 2.0	9 6.1	2 1.4
172306 WELDING & CUTTING NUMBER OF COMPLETERS PERCENTAGE	133	15 11.3	88 66.2	13 9.8	4 3.0	7 5.3	4 3.0	2 1.5
172309 METAL PATTERNMAKING NUMBER OF COMPLETERS PERCENTAGE	2	0 0	1 50.0	0 0	1 50.0	0 0	0 0	0 0
172399 METALWORKING(FAB) NUMBER OF COMPLETERS PERCENTAGE	229	23 10.0	156 68.1	31 13.5	9 3.9	5 2.2	1 .4	4 1.7
172602 COSMETOLOGY NUMBER OF COMPLETERS PERCENTAGE	418	3 .7	249 59.6	90 21.5	22 5.3	30 7.2	16 3.8	9 2.2
172700 PLASTICS OCCUP NUMBER OF COMPLETERS PERCENTAGE	6	0 0	5 83.3	1 16.7	0 0	0 0	0 0	0 0
172900 QUANTITY FOOD NUMBER OF COMPLETERS PERCENTAGE	504	13 2.6	324 64.3	48 9.5	72 14.3	18 3.6	22 4.4	7 1.4



TABLE 20

PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
FOR SCHOOL YEAR 1984-85

BY CHAPTER 74 PROGRAM

CH. 74 PROGRAM	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
172902 COOK-CHEF NUMBER OF COMPLETERS PERCENTAGE	74	3 4.1	45 60.8	5 6.8	15 20.3	4 5.4	1 1.4	1 1.4
173000 REFRIGERATION NUMBER OF COMPLETERS PERCENTAGE	9	0 0	0 0	2 22.2	5 55.6	0 0	0 0	2 22.2
173100 SMALL ENGINE NUMBER OF COMPLETERS PERCENTAGE	30	4 13.3	17 56.7	6 20.0	1 3.3	2 6.7	0 0	0 0
173300 TEXTILE PROD NUMBER OF COMPLETERS PERCENTAGE	31	0 0	8 25.8	9 29.0	8 25.8	1 3.2	5 16.1	0 0
173500 UPHOLSTERING NUMBER OF COMPLETERS PERCENTAGE	41	0 0	21 51.2	14 34.1	1 2.4	3 7.3	0 0	2 4.9
173600 WOODWORKING-CABINET NUMBER OF COMPLETERS PERCENTAGE	177	15 8.5	106 59.9	33 18.6	9 5.1	6 3.4	7 4.0	1 .6
179900 OTHER TRADE NUMBER OF COMPLETERS PERCENTAGE	25	2 8.0	11 44.0	6 24.0	3 12.0	0 0	2 8.0	1 4.0

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FISCAL YEAR 1985

TABLE 21 and FIGURE 8

Placement of Chapter 74 Program Completers

o BY TYPE OF SCHOOL





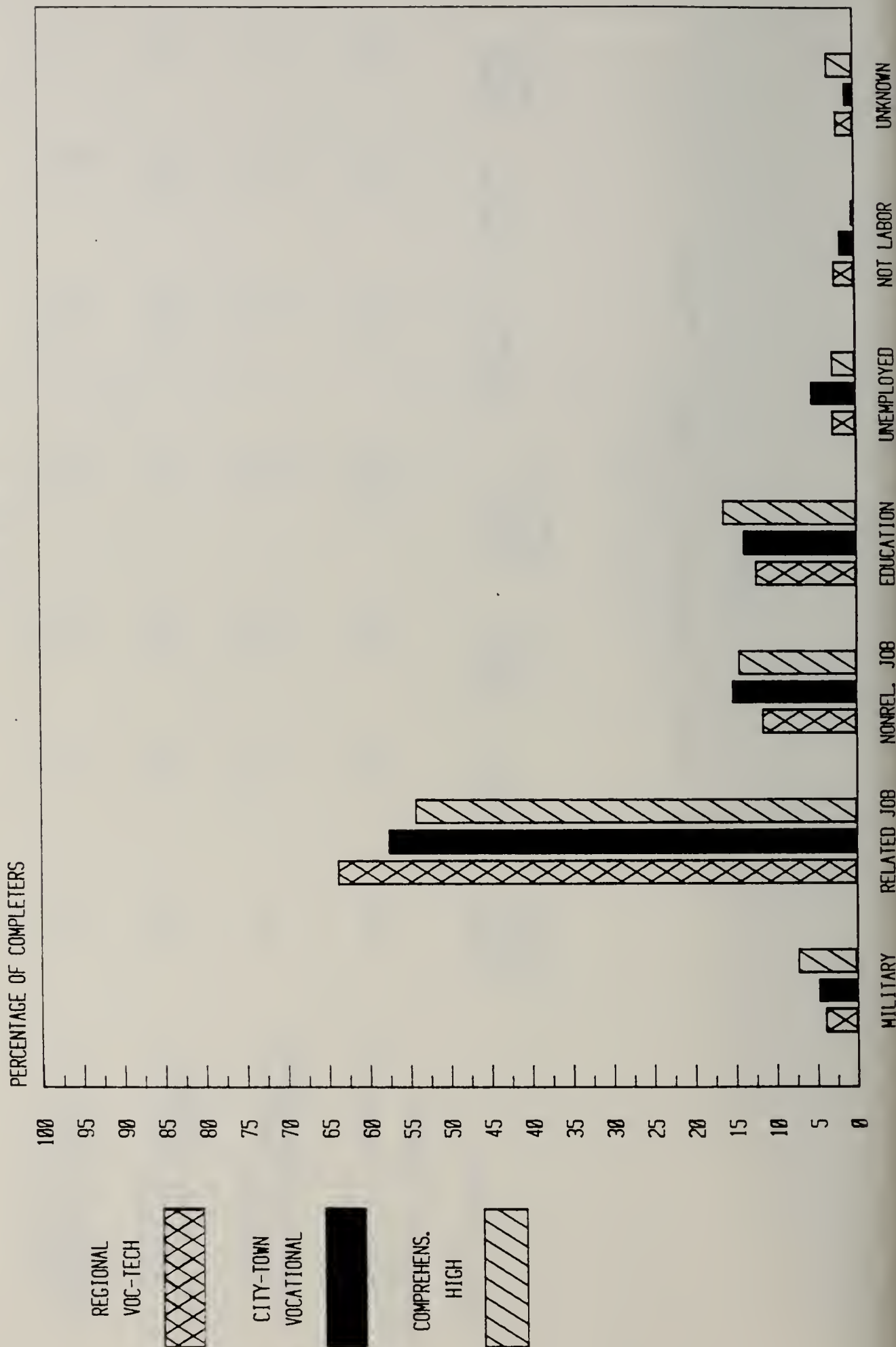
TABLE 21

PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
FOR SCHOOL YEAR 1984-85

BY TYPE OF SCHOOL

TYPE OF SCHOOL	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
REGIONAL VOCATIONAL- TECHNICAL								
Number of Completers	5369	220 4.1	3430 63.9	634 11.8	670 12.5	159 3.0	141 2.6	115 2.1
Percentage								
VOCATIONAL-AGRICULTURAL								
Number of Completers	205	6 2.9	173 84.4	2 1.0	11 5.4	12 5.9	1 .5	0 0
Percentage								
CITY & TOWN VOCATIONAL								
Number of Completers	2469	118 4.8	1424 57.7	382 15.5	340 13.8	135 5.5	45 1.8	26 1.1
Percentage								
COMPREHENSIVE HIGH								
Number of Completers	958	70 7.3	521 54.4	141 14.7	158 16.5	30 3.1	5 .5	33 3.4
Percentage								
**TOTAL**								
Number of Completers	9001	414 4.6	5548 61.6	1159 12.9	1179 13.1	336 3.7	192 2.1	174 1.9
Percentage								

FIGURE 8  
PLACEMENT OF CH. 74 PROGRAM COMPLETERS  
BY TYPE OF SCHOOL



FISCAL YEAR 1985

TABLE 22 and FIGURE 9

Placement of Chapter 74 Program Completers

o SCHOOL YEAR 1983-84 VERSUS SCHOOL YEAR  
1984-85





TABLE 22

PLACEMENT OF COMPLETERS OF CHAPTER 74 PROGRAMS  
BY MAJOR PROGRAM AREA

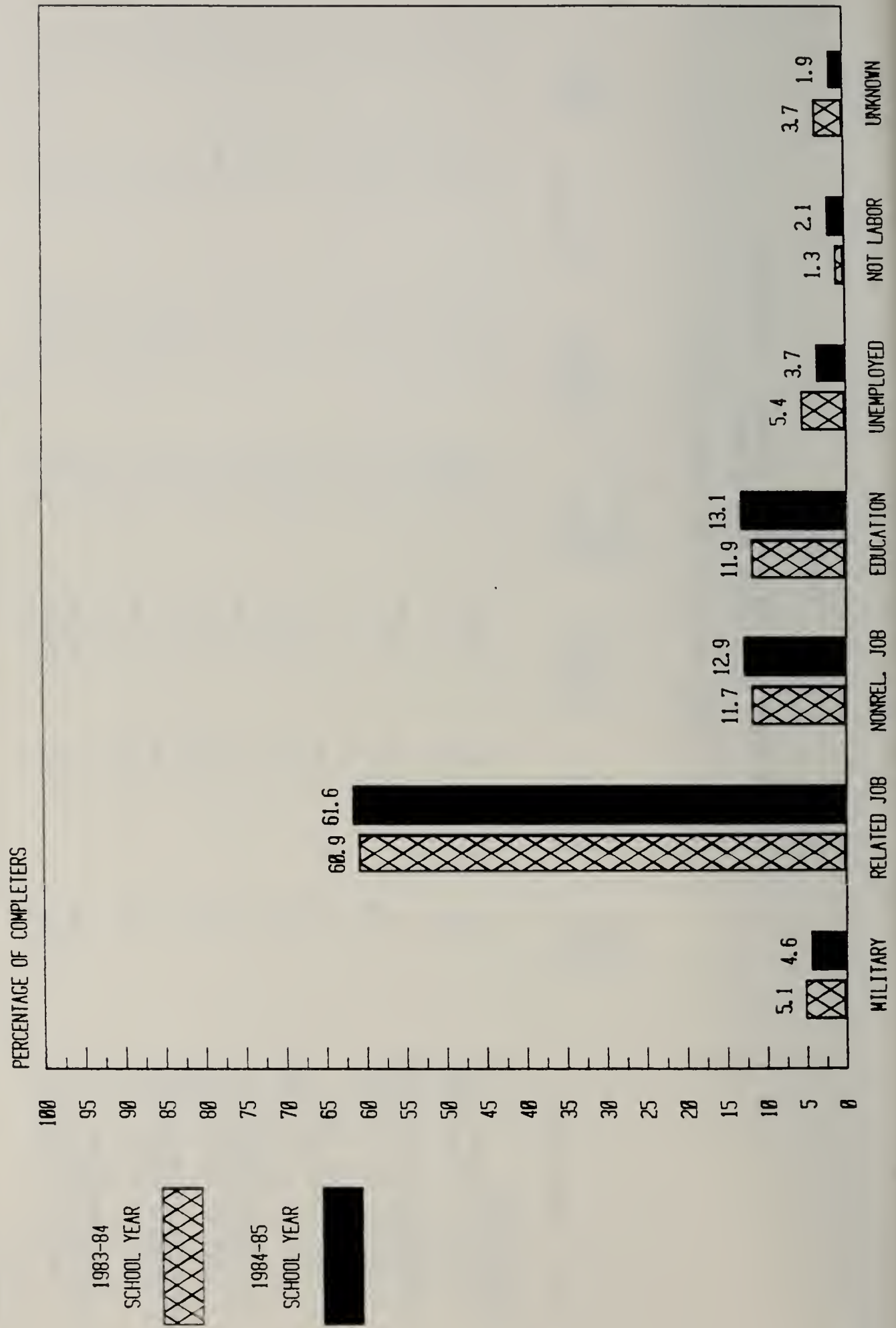
SCHOOL YEAR 1983-84 VERSUS 1984-85

MAJOR PROGRAM AREA	TOTAL NUMBER COMP- LETTERS	MILITARY SERVICE	EMPLOYED RELATED FIELD	EMPLOYED NON- RELATED FIELD	FURTHER EDUCATION	UN- EMPLOYED	NOT IN LABOR FORCE	STATUS UNKNOWN
AGRICULTURE								
1983-84 School Year	235	4.3%	60.0%	5.1%	16.2%	4.3%	.4%	9.8%
1984-85 School Year	321	2.5%	73.2%	5.0%	11.5%	5.0%	.9%	1.9%
DISTRIBUTIVE EDUCATION								
1983-84 School Year	553	2.7%	60.9%	8.1%	18.3%	5.2%	1.6%	3.1%
1984-85 School Year	488	2.5%	56.6%	11.3%	22.1%	4.7%	.8%	2.0%
HEALTH OCCUPATIONS								
1983-84 School Year	448	.9%	55.4%	11.8%	22.3%	5.6%	1.3%	2.7%
1984-85 School Year	392	1.3%	49.7%	14.5%	26.8%	3.3%	2.0%	2.3%
OCC PREP HOMEMAKING								
1983-84 School Year	266	2.3%	54.9%	13.2%	17.3%	7.9%	3.0%	1.5%
1984-85 School Year	200	2.0%	37.5%	21.0%	25.0%	7.0%	4.0%	3.5%
TECHNICAL OCCUPATIONS								
1983-84 School Year	577	4.3%	47.0%	12.3%	26.3%	4.3%	.5%	5.2%
1984-85 School Year	556	1.8%	53.4%	10.8%	24.8%	4.5%	1.6%	3.1%
TRADE & INDUSTRY								
1983-84 School Year	7,540	5.7%	62.5%	12.0%	9.4%	5.4%	1.4%	3.6%
1984-85 School Year	7,044	5.3%	63.5%	13.2%	10.5%	3.5%	2.3%	1.8%
**TOTAL**								
1983-84 School Year	9,619	5.1%	60.9%	11.7%	11.9%	5.4%	1.3%	3.7%
1984-85 School Year	9,001	4.6%	61.6%	12.9%	13.1%	3.7%	2.1%	1.9%

FIGURE 9

# PLACEMENT OF CH. 74 PROGRAM COMPLETERS

SCHOOL YEAR 1983-84 VS. 1984-85



B. One Year Follow-Up of Secondary and Postsecondary Student Completers

The one year follow-up study is a comprehensive analysis of the placement of all secondary and postsecondary Chapter 74 program completers for a given year. This data was provided by students who responded to a survey mailed to them in the spring of 1985 - approximately one year after their graduation from a Chapter 74 program.

Table 23 shows the numbers of completers in each of the following categories: military, employed in field related to training, employed in field not related to training, pursuing additional education, unemployed, not in labor force, and status unknown. (Descriptions of these seven placement categories are given in the preceding section on the placement study immediately upon graduation). Table 23 also gives the average starting salaries for completers of each type of Chapter 74 program.

Although many students did not respond to the survey and were classified as "status unknown", the data in Table 23 provide a good indication that within one year after completing a vocational program most students are gainfully employed or pursuing additional education. The average starting salaries for these program completers are also encouraging; most are between \$5.00 to \$6.00 per hour and some are \$9.00 per hour or higher.





FISCAL YEAR 1985

TABLE 23

One Year Follow-Up Study  
of June, 1984 Chapter 74 Graduates



Table 23

One Year Follow-Up of June, 1984 Chanter 74 Graduates  
SECONDARY

	TOTAL	MILITARY SERVICE	- TRAINING -		NOT PURSUING EDUC	UN-EMPLOYED	NOT IN STATUS		AVERAGE HRLY SALARY		- BASED -	
			RELATED	RELATED			LABOR UN- KNOWN	MALE	MALE	FEMALE	MALE	FEMALE
010100 AGRICULTURE PRODUCTION	46	4	11	6	9		1	15	4.45	3.50	6	1
010101 ANIMAL SCIENCE	46	4	14	7	15		2	4	4.60	4.80	5	5
010102 PLANT SCIENCE	2							2				
010199 POULTRY SCIENCE	7	1						6				
010200 AGRICULTURE SUPP/SERV	14		2	2	2		1	7				
010300 AGRICULTURE MECHANICS	15		4	4		1		6	6.00	4.50	2	1
010500 ORNAMENTAL HORTIC	102	4	28	13	16	2	3	36	7.71	5.19	9	4
010501 ARBORICULTURE	8		1				7	7				
010502 FLOKICULTURE	20		2	3	4	1		10	5.00			1
010504 LANDSCAPING	27	2	9	3	8		5	5	5.00		6	
010700 FORESTRY	27	3	7	3	5		9	9			3	
015500 OTHER AGRICULTURE	16	1	6	1	1		7	7	5.25		5	
040200 APPAREL AND ACCESSORIES	1				1							
040400 FINANCE AND CREDIT	29		7	7	14		1					
040700 FOOD SERVICES	48	2	20	3	4			19	3.54	4.85	9	2
040600 GENERAL MERCHANDISE	1229	52	385	145	193	21	20	413	4.93	4.68	87	165
041100 HOTEL AND LODGING	4		1	1		2						
070303 NURSING ASSISTANT (AIDE)	175	3	59	27	27	3	7	49	3.60	4.20	1	26
070904 MEDICAL ASSISTANT	19		11		3			5	4.76		11	
070906 HEALTH AIDE	211	1	60	26	32	2	1	89	8.25	3.81	2	37
075902 DIETARY AIDE	14		1	1			1	11				
090201 CARE + GUID OC CHILDREN	128	1	21	19	35	8	2	44	3.83			11
090202 CLOTHING MGT, PROD, SERV	67		14	7		2		42	5.44	3.98	1	6
090203 FOOD MGT, PROD, SERV	16	2	7	4	1			2	5.75		2	
090205 INST + HOME MGT + SUPPL	38		1	1		1		35	3.74			1
160105 CHEMICAL TECH	8	1					7					
160106 ELECTRONIC TECHN	7	1		1	4		1					
160117 SCIENTIFIC DATA TECHN	19	4	10		4		1		5.27			6
160401 PROGRAMMER	526	6	170	45	109	15	9	172	5.77	5.61	31	54
169503 PACKAGING TECH	2							2				
169504 RADIO & TV PRODUCTION	8	1	2	1	5							
169507 BUSINESS TECH	65		13	1	8		1	42	5.81			13
170100 AIR CONDITIONING	161	4	41	19	13	4		80	5.72	7.18	23	3
170200 APPLIANCE REPAIR	36	1	7	7		1		20	5.58		3	
170301 BODY AND FENDER REPAIR	316	12	99	36	7	7		155	5.54	5.00	68	1
170302 AUTO MECHANICS	783	55	311	88	43	27	9	250	4.94	3.07	188	8
170700 COMMERCIAL ART	203	12	48	26	26	4	3	84	5.22	4.55	12	14
170900 COMMERCIAL PHOTOGRAPHY	5		2	1	2				4.00		2	
171001 CARPENTRY	650	34	275	66	30	9	4	232	5.85	4.98	199	5
171002 ELECTRICITY	313	13	144	28	26	8	2	92	5.49	4.32	100	1
171003 HEAVY EQUIPMENT	17		6					11	6.14		5	
171004 MASONRY	73	1	26	8	4		2	32	7.21		21	
171005 PAINTING AND DECORATING	132	1	19	24	15	3	4	76	6.33	4.78	11	5
171007 PLUMBING	230	8	78	14	5	7		118	5.41	5.75	56	1
171059 OTHER CONSTR + MAINT	104	8	42	10	4	4		36	5.13		27	

Table 23

One Year Follow-Up of June, 1984 Charter 74 Graduates

SECONDARY

	TOTAL	MILITARY SERVICE	- TRAINING -				NOT IN STATUS LABOR UN- KNOWN	AVERAGE WRLY S'ALARY		- BASED -	
			RELATED	NOT RELATED	PUKSUING EDUC EMPLOYED	UN- KNOWN		S'ALARY		MALE	FEMALE
								MALE	FEMALE		
171100 CUSTODIAL SERVICES	1		1					4.75		1	
171200 DIESEL MECHANICS	64	2	20	5		37		4.92		17	
171300 DRAFTING OCCUPATIONS	352	12	77	51	67	4	2	6.09	5.39	48	15
171400 ELECTRICAL OCCUP	265	9	100	24	13	4	1	5.69	5.00	76	1
171500 ELECTRONIC OCCUPATIONS	587	34	151	71	108	20	4	5.02	4.72	96	13
171503 RADIO AND TELEVISION	37	2	2	2	1	1		8.35	7.55	1	
171900 GRAPHIC ARTS OCCUP	497	23	164	69	45	15	11	5.02	4.58	78	40
171902 PRINTING PRESS OPER-GRPH	41	1	15	3		1	1	6.11	3.79	8	6
172100 INSTR MAINT AND REPAIR	4										
172200 MARITIME OCCUPATIONS	37	2	6	3	1	1		6.28	4.50	4	2
172302 MACHINE SHOP	630	41	262	51	32	9	6	5.76	7.35	200	3
172305 SHEET METAL	143	6	59	20	7	3	2	5.67	6.25	45	1
172306 WELDING AND CUTTING	126	12	42	6	4	3		6.48		33	
172309 METAL PATTERNMKG-MILLWRT	6		1								
172399 OTHER METALWORKING	193	9	81	18	13	1		5.93		65	
172602 COSMETOLOGY	394	1	91	90	13	13	6		3.62		74
172700 PLASTICS OCCUPATIONS	12	1	2	3	2	2		4.43		2	
172900 QUANTITY FOOD OCCUP	532	14	169	44	53	15	9	4.49	3.83	56	60
172902 COOK/CHEF	64	2	19	6	6	1	4	5.14	4.73	7	12
173100 SMALL ENGINE REPAIR	38	3	12	6	1			4.31		10	
173200 STATIONARY ENERGY SOURCE	24		6	3				6.85		4	
173300 TEXTILE PROD + FABRIC	24	1	4	6		1	2		4.50		3
173500 UPHOLSTERING	28	1	6	2	1	1		4.21	4.50	5	1
173600 WOODWORKING OCCUP	175	11	77	35	4	10	2	5.18		47	
179901 IND SEWING MACH REPAIR	12										
999999 TOTALS	10258	429	3331	1177	1036	237	124	5.44	4.48	1687	614



Table 23  
One Year Follow-Up of June, 1984 Chapter 74 Graduates  
POSTSECONDARY

	TOTAL	MILITARY SERVICE	- TRAINING -			NOT PURSUING EDUC	UN-EMPLOYED	LABOR FORCE	STATUS KNOWN	AVERAGE WRLY SALARY		- BASED -	
			MILITARY SERVICE	RELATED	NOT RELATED					MALE	FEMALE	MALE	FEMALE
010101 ANIMAL SCIENCE	1												1
010299 OTHER AGRIC SUPP/SERV	34												14
010401 FOOD PRODUCTS	11												2
010500 ORNAMENTAL HORTIC	3												1
010502 FLORICULTURE	12												2
010505 NURSERY OPER/MGT	12												4
010601 FORESTS	7												5
010604 WILDLIFE ECOLOGY	6												1
040200 APPAREL AND ACCESSORIES	18												2
040700 FOOD SERVICES	20												2
040800 GENERAL MERCHANDISE	2												4
070101 DENTAL ASSISTANT	87												1
070203 MEDICAL LAB ASST	15												1
070299 OTHER MEDICAL LAB TECHN	16												54
070302 PRACTICAL (VOC) NURSING	373												9
070303 NURSING ASSISTANT (AIDE)	54												10
070305 OPERATING RM TECH-SURG	30												187
070600 OPHTHALMIC	9												15
070904 MEDICAL ASSISTANT	119												13
090203 FOOD MGT, PROD, SERV	6												3
160103 ARCHITECTURAL TECHN	27												3
160106 CIVIL TECHNOLOGY	14												66
160107 ELECTRICAL TECHN	4												2
160108 ELECTRONIC TECHN	59												5
160109 ELECTROMECHANICAL TECHN	29												7
160401 PROGRAMMER	108												5
170100 AIR CONDITIONING	21												2
170301 BODY AND FENDER REPAIR	2												25
170302 AUTO MECHANICS	3												9
170700 COMMERCIAL ART	22												2
171001 CARPENTRY	5												9
171002 ELECTRICITY	1												20
171004 MASONRY	5												21
171007 PLUMBING	3												7
171200 DIESEL MECHANICS	26												3
171300 DRAFTING OCCUPATIONS	19												3
171400 ELECTRICAL OCCUP	3												11
171500 ELECTRONIC OCCUPATIONS	3												3
171900 GRAPHIC ARTS OCCUP	2												2
172302 MACHINE SHOP	5												1
172305 SHEET METAL	3												4
172306 WELDING AND CUTTING	12												1
172602 COSMETOLOGY	108												5
172900 QUANTITY FOOD OCCUP	8												3
172901 BAKING	6												29
172902 COOK/CHEF	33												2
173600 WOODWORKING OCCUP	3												3
999999 TOTALS	1369	5	915	58	73	36	17	264	153	456			





C. Secondary Completer/Leaver and Employer Satisfaction Surveys

Follow-up surveys of student completers/leavers of Chapter 74 programs and their employers are an ongoing part of the evaluation activities conducted by the Department of Education. During fiscal year 1985 work was begun on developing a Request-for-Proposals to conduct a survey of completers and leavers of secondary level Chapter 74 vocational programs and their employers. The RFP process and contract award were subsequently finalized in early 1986. Preliminary results of these surveys will be reported in the Fiscal Year 1986 Accountability Report.

To date, the Department of Education has completed three "streams" of follow-up surveys; each dealt with a different educational level and was conducted in a different year. The first stream of follow-up surveys, of 1979 and 1980 secondary program completers/leavers and their employers, was conducted by TDR Associates in 1982. The second stream, of 1982-82 Community College day program completers/leavers and employers, was conducted by the Board of Regents of Higher Education during 1982-83. The third stream, of 1982-83 other postsecondary program completers/leavers and employers, was undertaken by the Division of Occupational Education in December, 1984.

The sample for the fiscal year 1986 survey will be about 5,500 students who completed or left a secondary Chapter 74 approved vocational program during school years 1982-83 and 1983-84. A substantial number of the employers of those students who return completed surveys will also be sent questionnaires.

The methodology for the fiscal year 1986 survey will be similar to that used for the previous three streams of surveys. Student completers/leavers and their employers will be asked to rate at least 12 aspects of the student's vocational training:

- o Overall
- o Technical Knowledge
- o Work Attitude
- o Work Quality
- o Technical Skills
- o Problem-Solving
- o Math Skills
- o Oral Communication Skills
- o Writing Skills
- o Social Skills
- o Work Habits
- o Relative Preparation

The first 11 of these 12 aspects will be rated by students and employers on a 5-point scale: "very poor", "poor", "average", "good", or "very good." The "Relative Preparation" item will ask students and employers to indicate whether the student was "less prepared", "prepared the same", or "better prepared" than employees who had not received the student's specific training. Students and employers will also be encouraged to provide written comments about any aspect of the secondary vocational training.

The results for the first three streams of follow-up surveys conducted to date provide a consistent and positive picture of how employers and students view vocational training in the Commonwealth. On the average, students and employers both rated most aspects of vocational training between "good" and "very good." Students' relative preparation was rated as somewhat better than that of employees who did not receive similar vocational training. Figures 10 and 11 depict these average ratings for some aspects of vocational training.



FIGURE 10  
EMPLOYER RATINGS OF VOC. TRAIN.

EDUCATIONAL LEVEL COMPARISONS

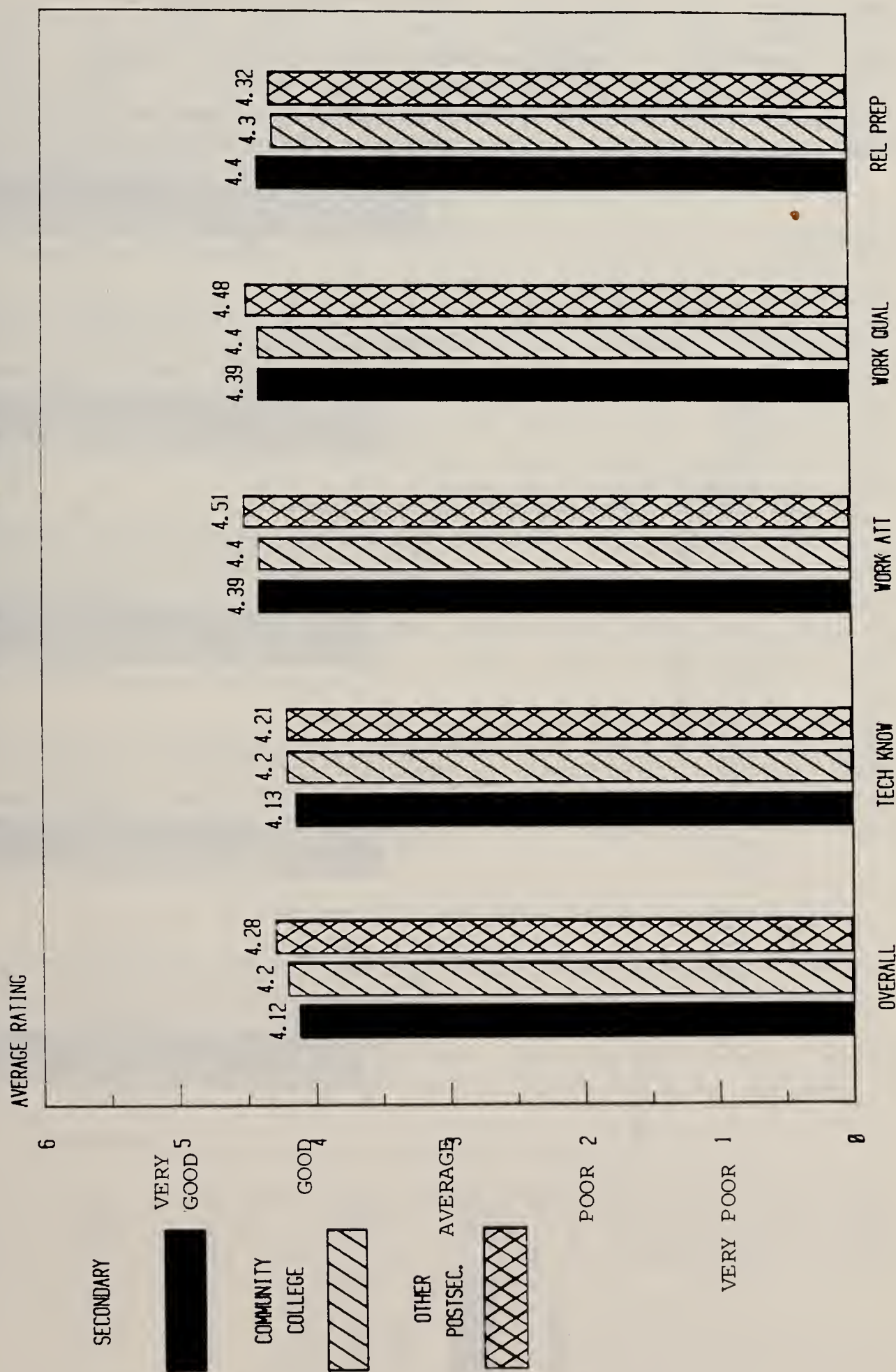
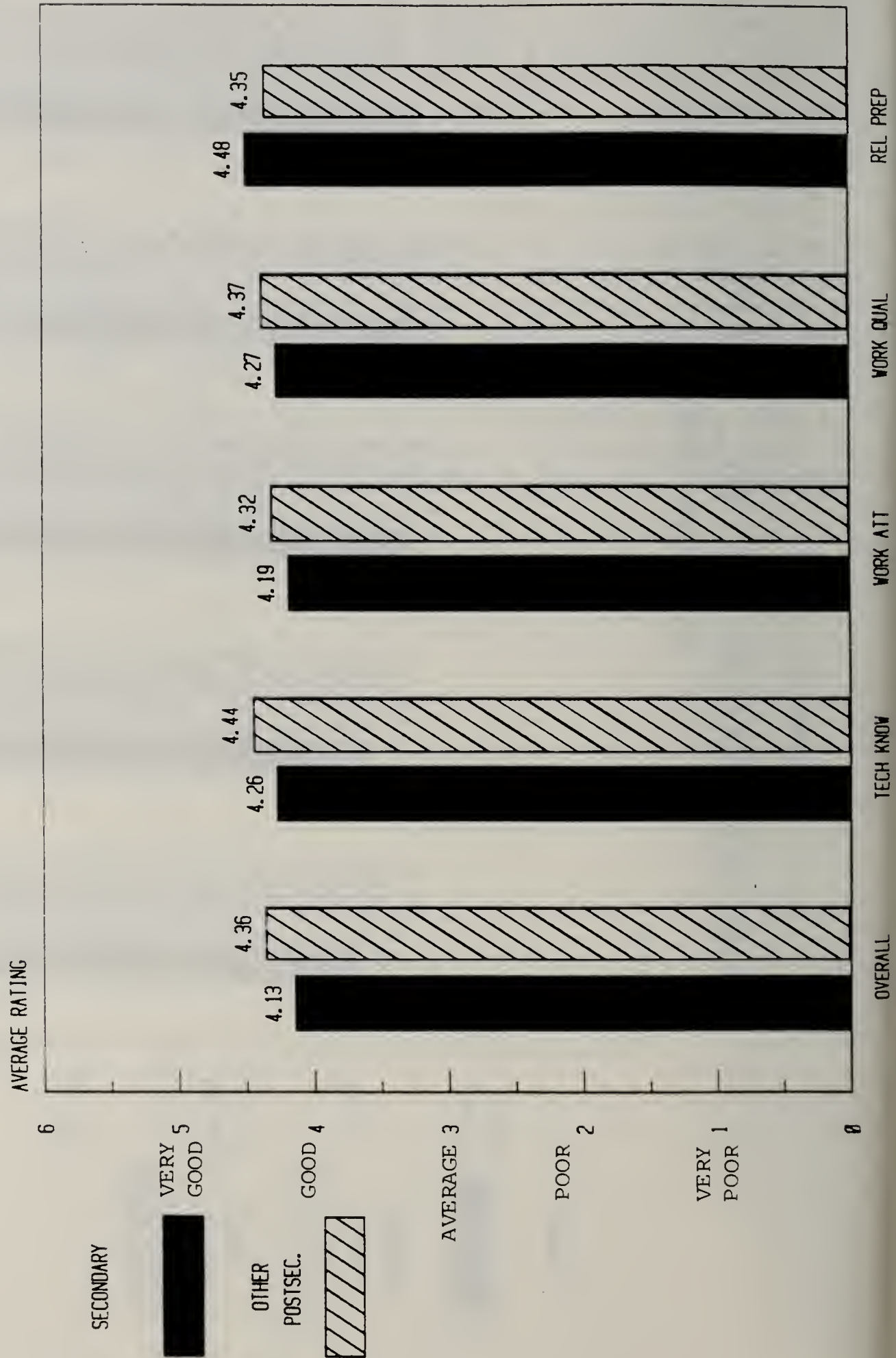




FIGURE 11

# STUDENT RATINGS OF VOC. TRAIN.

EDUCATIONAL LEVEL COMPARISONS



- B. GOAL 2: TO INCREASE OPPORTUNITIES IN VOCATIONAL PROGRAMS WHICH ARE OF HIGH QUALITY AND REALISTIC IN TERMS OF EMPLOYMENT DEMAND WHICH MEET THE NEEDS, INTERESTS AND ABILITIES OF ALL CITIZENS, HAVE EQUAL ACCESS FOR ALL AND WILL INSURE THAT ALL STUDENTS (PARTICULARLY MINORITIES, FEMALES, LIMITED ENGLISH-PROFICIENT, HANDICAPPED, DISADVANTAGED) ARE AFFORDED EQUAL ACCESS TO VOCATIONAL EDUCATION PROGRAMS.**

The Massachusetts Department of Education's effort to provide equal access for females and males to vocational education predates Public Law 94-482. The Commonwealth's equal educational opportunity law, Chapter 622, was passed in 1971 and its regulations, which specifically address vocational education, became effective in 1975. Massachusetts' commitment to sex equity in vocational education was further strengthened by the adoption in 1977 of revised regulations for Chapter 74, the state vocational education law. The law makes state aid to vocational programs contingent on the submission of written "admissions criteria" that do not discriminate against target populations. Consequently, the outline of the Commonwealth's sex equity effort was established prior to the promulgation of the sex equity amendments to P.L. 94-482. The Commonwealth's sex equity plan is considerably stronger than ones which rely on incentives and model programs.

The Division of Occupational Education's comprehensive plan to ensure equal vocational education opportunities for both sexes and other target populations in Massachusetts has several general components, which are described in this section:

1. Division Personnel
2. Regular Divisional Procedures
3. Technical Services to Vocational Schools
4. Sex Equity Projects
5. Services to Other Target Populations
6. Enrollments of Target Populations in State Chapter 74 Programs and in Federal P.L. 94-482

#### **1. Division Personnel**

The Division has assigned specific responsibilities for sex equity to certain staff members, and in addition provides training on an ongoing basis for all its program staff in the critical aspects of equity requirements.



The Division's Bureau of Program Services is staffed with personnel responsible for overseeing all procedures related to equal access for target populations. Full-time staff in the Equity Unit review Admissions Plans and data for selective vocational schools and programs statewide, coordinate the admissions activities of regional staff, serve on the Department-wide Civil Rights Task Force (co-chair in FY85) and coordinate the sex equity provisions of P.L. 94-482. In administering the latter, the Bureau works closely with other bureaus (Post-Secondary; Education, Training and Employment; and Research, Planning and Evaluation) to assess and recommend vocational programs and policies which overcome sex discrimination, bias and stereotyping. Divisional staff have received training, in previous years, in such areas as: developing strategies to reduce sex bias in vocational education; selecting curricular materials free of sex stereotyping; designing counseling and placement services to assist students to enter and remain in nontraditional areas of study; development of model programs; providing technical assistance to schools in developing equitable Admissions Policies and Plans; utilization of the special education admissions questionnaire during onsite visits; civil rights monitoring; using and disseminating newly developed sex equity resources; and providing technical assistance to schools in responding to sex equity Requests for Proposals (RFP's).

## 2. Regular Divisional Procedures

The Division has instituted certain regular procedures designed to ensure that vocational education programs for which the Division has funding and oversight responsibilities comply fully with state and federal sex equity legislation.

- A. Recipients of federal vocational education funds: All applications and competitive proposals for federal vocational education funds must contain the following before they are considered for processing: projected enrollments for all protected categories of students; a description of recruitment procedures for all protected categories of students; an objective designed to reduce sex bias and stereotyping; and evaluation procedure in measurable terms for that objective; assurance that curricular materials used in the proposed project will be reviewed for sex and ethnic bias; assurance that supportive services will be provided for students enrolled in nontraditional programs; and documentation that affirmative action hiring practices will be observed.

Each funded project is required to file Progress Reports that contain actual enrollment figures for protected categories of students. Further federal funds may be withheld from any project whose actual enrollment figures deviate significantly from projected enrollments. The final report filed for each project reports the gender of all staff hired with federal funds.

- B. Selective secondary vocational schools: These schools are the primary deliverers of intensive skills training at the secondary level. The Division undertook an intensive effort to ensure equal access to the Commonwealth's forty-five selective schools commencing in 1976. In that year, each selective school was required to develop and submit an Admissions Plan to the Department of Education that contained (1) current enrollments by category, (2) a description of admissions policies and procedures, and (3) a recruiting plan to increase enrollments of underrepresented categories. Since 1977, each selective school has been required to file an Admissions Plan Update that reports current data, procedures, and recruiting efforts. Federal funds are withheld until the plan is approved. In October 1982, the Division intensified its efforts by focusing on technical assistance to resolve priority concerns in order that admissions policies of selective schools meet divisional standards of approval. A new special education monitoring questionnaire was developed in conjunction with the Division of Special Education and added to the admissions onsite report in October 1984. By spring of 1985, Admissions Strategies That Work, a comprehensive manual on actual admissions strategies used in Massachusetts schools, was published and disseminated.
- C. Chapter 74 programs (state-aided vocational education programs): The regulations for vocational education programs aided and regulated by the Commonwealth of Massachusetts include "conditions of admission" among the ten factors evaluated by the Division of Occupational Education before programs are approved. All Chapter 74 programs are prohibited by the regulations from using any admission criteria that discriminate on the basis of sex, race, religion, color, national origin or special needs. The Division's regular evaluation of these programs includes an investigation and evaluation of the conditions of admission.
- D. Civil Rights Compliance Review: The Department of Education, in accordance with the Massachusetts Methods of Administration in response to the Office for Civil Rights Guidelines for Vocational Education Programs, has instituted an annual procedure for the compilation of and distribution to concerned parties, a computer-generated Civil Rights Compliance Review. The Compliance Review is



is a comprehensive analysis of enrollment data for all secondary vocational education programs in the Commonwealth. Regional staff review sets of computer-generated data consisting of a series of analyses of access to occupational programs for female, minority, handicapped, and limited English-proficient students. Data are based on information in the October 1 School System Summary Report.

Of the 256 school districts with secondary programs in the Commonwealth, at least 212 districts received on-site reviews for civil rights compliance issues beginning in September, 1984. This represents 83% of the operating school districts in this state, far more than the 5% required by the Methods of Administration for Massachusetts.

Since the monitoring of the selective secondary vocational schools began in 1977, the enrollment of females has increased by 46% while the total enrollment increase has only been 10%. Table (24) presents enrollment increases in selective secondary vocational schools during fiscal years 1980-85.

Table (24)

Female Enrollment Changes In Selective Secondary Vocational Schools (SSVS) for Fiscal Years 1980-1985

SSVS Enrollment	FISCAL YEARS					
	1980	1981	1982	1983	1984	1985
TOTAL	36,479	37,623	37,532	39,026	39,244	37,699
Female	9,895	10,577	11,020	11,884	12,490	12,600
Female % of Total	27%	28%	29%	30.5%	32%	33.4%

### 3. Technical Services to Vocational Schools:

In recognition of the fact that quality technical assistance to schools and staff is critical in achieving educational equity, the Division of Occupational Education has developed and continues to develop model programs for the recruitment, retention and placement of target populations.

The You Can Do It series, with fact packs and posters translated into several languages, suggests techniques for recruiting Black, Hispanic, limited English-proficient and handicapped students of both sexes, as well as females and males into nontraditional programs. In addition to

background information on the participation of target populations in vocational education, a Recruitment Guide includes step-by-step instructions for conducting various recruitment activities. These include producing a slide-tape, writing press releases, and speaking before parent and employer groups.

This series was widely disseminated and has been so well-received that several vocational schools, using their own printing shops, have adapted and continue to use the fact packs to illustrate their particular program offerings.

Making It Work, a vocational education inservice package focusing on drop-out prevention, includes both trainer and participant manuals. This package is divided into three modules: "Conquering Your Dropout Woes," "Placing Your Vocational Education Students," and "A Blueprint for Student Achievement." The Division has disseminated the modules to all vocational schools in the state.

Future Shares: Strategies for Increasing Sex-Fair Educational Practices in Nontraditional Training Courses, is designed to assist vocational teachers in coping with changes required once nontraditional students are enrolled in their classes.

Admissions Strategies That Work: A Guide for Vocational Educators, presents workable strategies for developing and implementing admissions procedures that are useful, reliable and equitable.

These last three resources were selected as National Dissemination Exemplary Product Award Recipients. Further technical assistance efforts have included inservice training in equity issues and resources at the Annual Professional Development Conference for Vocational Educators, assistance in developing equitable admissions policies for selective vocational schools, curriculum development and staff development in competency-based vocational education and technical assistance in forming, maintaining and expanding support groups for nontraditional students. In addition, Divisional Equity staff have participated in developing statewide civil rights training, an equity style sheet, a civil rights orientation for new personnel, an Equity Resource Bank and stronger ties with student organizations and the Student Advisory Council.



#### 4. Sex Equity Projects

Two of the many sex equity projects that were funded during fiscal year 1985 are described below.

##### Expanding Vocational Alternatives, Montachusett Vocational Technical School

This project was developed as a summer exploratory program that offered "hands-on" experience within five (5) trade areas for 35 nontraditional students. The trade areas included in the program were: Machine Shop, Carpentry, Electricity, Electronics and Plumbing. The primary objective of the program was to expand the access to vocational programs for the nontraditional student by increased awareness and actual experience with various occupational options. During this twenty (20) day program, the students were rotated through the five vocational areas.

##### Project Aware, Minuteman Regional Vocational School

Through this project a student guide, teacher's manual and accompanying videotapes were developed to provide affirmative, unbiased vocational information for elementary and junior high school students in over 100 cities and towns. Students were introduced to a variety of occupations and were provided with realistic, relevant information about vocations open to both sexes. The videotapes depicted role models working in nontraditional occupations.

#### 5. Results of Services to Other Target Populations

In addition to funding sex equity projects, federal funds were targeted toward three other populations: handicapped, disadvantaged, and limited English-proficient students. Federal funds and program development efforts were directed at (1). increasing the enrollments of students previously underrepresented in occupational education. (These enrollments are given in the next section) (2.) providing the services necessary for these target populations to succeed in vocational training programs.

The following vocational programs represent the services provided to special populations throughout the Commonwealth. Although most programs involved more than one target group, programs are listed under the major target group served. Brief descriptions of each target group (taken from the State Plan) are included to identify the population groups.

## A. HANDICAPPED

Handicapped students are students who fulfill both of the following two conditions:

1. Have one or more of the following impairments: speech, orthopedic, physical, hearing, visual; are mentally retarded; are seriously emotionally disturbed; or who have specific learning disabilities; and who by reason of this impairment(s):
  - a. require special education and related services; and
  - b. cannot succeed in the regular vocational education program without special education assistance; or
  - c. require a modified vocational education program.
2. Have either an Individualized Education Plan (IEP) or an Individualized Written Rehabilitation Plan (IWRP).

The following program descriptions illustrate services provided to the handicapped.

### Micrographic Technology, Boston Public Schools

This project provided 28 multi-handicapped, deaf students with vocational skills training in micrographic technology. The program involved a combination of classroom work, technical skills training, hands-on experience, and vocational counseling. The micrographic competencies which students were taught included document preparation, film composition and processing, diazo exposure and processing, chemical safety procedures, indexing, and the latest quality control techniques.

The success of this project can be measured both by the individual achievements of students and the widespread support the project has received from the local business and industry community. Four students received training in internal testing of printed wire assemblies and were employed immediately upon completion of the program; two students began employment at a National Bank as microfilm technicians on a work study schedule and have recently upgraded their employment status, with a starting salary of \$7.00 an hour. In addition, the students successfully completed a project producing microfilm for the City of Boston.



Business and industry support for the program has been overwhelming. Alliances were developed with several local banks, insurance agencies, and micromedia firms. In addition, several equipment donations have been received from Fram Automotive Corporation of Rhode Island, Liberty Mutual of New Hampshire, Micromedia of Boston, Raytheon Corporation, and Stone and Webster Corporation of Boston.

Mainstreaming Special Needs Students, Pittsfield Public

Schools

This project increased access to vocational skills training for 10 special needs students enrolled in the Pittsfield Public School's Alternative School. The grant funded a vocational instructor who taught five students at a time on a rotating week basis in the existing Machine Technology, Metal Fabrication, Auto Body, and Auto Mechanics shops at Taconic High School. The project facilitated the transition from a substantially separate to a well-supported mainstream learning environment for these special needs students.

This project demonstrates the effectiveness of coordinating the special needs and vocational resources of two different schools and learning environments. As a result of this project, four of the participants were able to enroll as full-time students in regular vocational programs.

Copy Center Aide, Shawsheen Valley Technical School

This project was designed to enable handicapped students to succeed in completing their vocational education program in graphic arts. An aide provided this needed additional assistance and support to 10 handicapped students. The students were provided hands-on experience in copy center operations; they learned how to manually program the computerized control panel for paper size and speed of operation; adjust the offset press work for alignment and printing, and how to produce quality copy.

Students were successfully mainstreamed into the regular graphic arts program as a result of the excellent support provided by the aide. The placement of students in trade-related jobs is also excellent, particularly since there are currently more jobs available than graduates.

## B. DISADVANTAGED

Disadvantaged students are persons who have academic or economic disadvantages, or require special services, assistance, or programs to enable them to succeed in vocational education programs. Examples of projects designed to assist disadvantaged students are described below.

### Technical Assistant Support-Disadvantaged, Chicopee Public Schools

This project was designed to decrease the number of drop-outs and improve the shop and shop-related skill levels of disadvantaged students. Five technical assistants provided 83 disadvantaged students with individualized instruction in one of five shop areas: Automotive, Electrical, Auto Body, Carpentry, and Machine Shops. The technical assistants used a comprehensive skill assessment process to identify the targeted skills each student needed to successfully complete his or her course of study.

The project achieved a high degree of success in helping students gain the vocational competencies needed for promotion to the next grade level. Of the 83 students served by this project, there were no vocational program drop-outs and all project participants successfully completed their vocational (both shop and related) course of study.

### Computers for Occupational Basic Skills, Boston Public Schools

This project used computer-assisted and computer-managed instruction to improve the reading, writing, and problem solving skills of 406 disadvantaged tenth, eleventh, and twelfth grade students enrolled in vocational training programs. Computer software was developed which assisted the three program specialists in the assessment of occupationally-related basic skills of students, and which provided students with drill and practice in the desired skills.

The major accomplishments of this project included the development of computer software and the success of students in improving their reading, writing and problem-solving skills after using this software. About 90% of these students were able to master these skills with test scores of 80% or higher. And, the project has received positive feedback from skill instructors on academic remediation results.



Teen Mothers Skill Training, Quincy Public Schools

The project provided 15 disadvantaged, pregnant teenage females and young mothers with skills in family living, assistance in developing job entry skills, and education in parenthood. The program prepared students with entry level skills in office work including typing, filing, and telephone reception. Program staff included a teacher, 2 child care aides, a social worker, psychologist, nurse, and guidance counselor.

The project is notable for the multi-faceted approach it takes to the problems facing teenage mothers. This project successfully provided 15 teenagers not only with vocational skills training, but also with the supportive services in family skills and parenthood needed to ensure their success in the vocational training. As a result, inroads have been made in breaking the pattern of academic failure and underemployment that often characterize teenage mothers.

Shop Liaison: Vocational Support, Silver Lake Regional Vocational School

This project provided 36 disadvantaged students, who were at high-risk for dropping-out, with the support services needed to help them succeed in their regular vocational programs. An instructional liaison engaged in a broad range of activities; 40% of the time was spent in direct service to these students in the shop/lab; 25% in direct service to students in related classes; 25% liaison coordination with vocational, special education teachers, and other staff; 10% in conferences with parents.

This project demonstrates the usefulness of a multi-faceted approach to providing vocational support services to disadvantaged students. The contact the liaison had with the community and administration at Silver Lake Regional School was both extensive and well-received. In addition, the liaison was able to successfully consult with instructors in both shop and related courses in developing individualized, remedial lessons for the students.

Afternoon Special Disadvantaged, Greater New Bedford Regional Vocational High School

Twenty disadvantaged students were provided with vocational training in 6 occupational areas in their freshman year. They received academic training at New Bedford High School in the morning and were bused for vocational training at Greater New Bedford Vocational Technical High School in the afternoon.

The project was successful in that after completing courses in several vocational areas, these students were allowed to transfer to the Vocational School as full-time students during their freshman year. The project also demonstrated a high degree of coordination and cooperation between the two schools; supervisory staff from both the sending school and Vocational High School were on-site to counsel and support the students. Finally, both schools mutually benefited because regular students leaving the Regional Vocational High School were readily replaced by the well-prepared disadvantaged students.

### C. LIMITED ENGLISH SPEAKING

Limited English proficient students are individuals who come from environments where a language other than English is dominant. By reason of this, they have difficulties speaking and understanding instruction in the English language and require special services, assistance, or programs in order to succeed in a regular vocational education program. Examples of projects developed for limited English proficient students are described below.

#### Limited English Proficiency Assistance, Springfield Public Schools

This project was designed to increase the number of limited English proficient students who enroll in vocational skills training programs and to enhance their successful completion of these programs by providing supplementary supportive language and communication skills. A certified bilingual instructor provided about 40 students in grades 10-12 with five hours per week of individualized reading, language, and skill area communications.

A monitoring visit by Department of Education staff provided evidence that the project was being implemented successfully. The rapport between the students and instructor was excellent. All students interviewed expressed satisfaction with the program, and most felt that as a result of the project they had increased comprehension in their related assignments. Also, some students were able to return to the regular class after gaining the necessary skills comprehension.

#### Support Aide for Limited English Proficient Students, Haverhill Public Schools

This project provided special assistance to 24 limited English proficient students enrolled in the Machine Shop, Business Education, and Electronics programs. An occupational support aide provided a combination of individual and small group remedial instruction in math, reading, and related subjects. In addition, employment



support was offered in areas such as completing job applications, rehearsing job interview procedures, and other job-related activities.

An important part of the program was to recruit limited English proficient students from the city's middle schools into the high school vocational programs. The program was successful both in recruiting more limited English proficient students into vocational programs, and in reducing the drop-out rate for those students already enrolled in vocational programs.

#### Bilingual Paraprofessional Assistant, Boston Public Schools

This project provided bilingual assistance to 328 limited English proficient students enrolled in various vocational programs in four Boston area high schools. Four bilingual paraprofessionals assisted these limited English proficient students in developing sufficient English skills to succeed in regular vocational skills training programs. This assistance took on many forms, including translating and adapting curricula.

The accomplishments of this project are reflected in both the numbers of curriculum materials that have been translated and the individual achievements of students. The curriculum adaptations and translations that occurred during this project will continue to benefit limited English proficient students in years to come. For example, all important safety rules have been translated into Spanish, Vietnamese, Portuguese, Cambodian, and French. Course descriptions have been translated into Vietnamese and Home Economics booklets have been translated.

Student achievements have been demonstrated in many ways. For example, 200 students measurably increased their English proficiency levels. About 53 students work by themselves and all have been promoted; 8 students are employed in work study programs. In addition, 2 female limited English proficient students from nontraditional programs received scholarships.

### 6. Enrollments of Target Populations

Target populations were significantly represented in both State Chapter 74 vocational programs and P.L. 94-482 programs during fiscal year 1985.

- A. Table 25 gives the numbers of females, males, and other target population students enrolled in State Chapter 74 programs.
- B. Table 26 shows the numbers of females and males within each grade level, ethnic group, and special needs group enrolled in each P.L. 94-482 program category.

FISCAL YEAR 1985

TABLE 25

Target Populations Served in Chapter 74  
Secondary Programs



Table 25

Fiscal Year 1985

Priority Populations Served in Chapter 74 Secondary Programs  
(by Major Program Area)

USOE Code and Title	Male Enrollment					Female Enrollment					Total Enrollment		
	Total	Minority	Disadvantaged	Handicapped	Total	Minority	Disadvantaged	Handicapped	English* Not	Limited English Proficient*	First Language	English Proficient*	4
	750	66	107	166	408	46	54	50					
010000 Agriculture													
040000 Distributive Education	1,031	192	245	247	1,874	255	422	257	189	95			
070000 Health	105	53	41	25	1,499	227	274	189	85	32			
090200 Consumer and Homemaking	107	21	28	31	1,158	183	226	151	158	143			
160000 Technical	762	61	108	67	914	94	115	33	79	14			
170000 Trade and Industrial	27,777	2,437	5,061	4,823	6,326	724	1,187	810	1,719	593			
TOTALS	30,532	2,830	5,590	5,359	12,179	1,529	2,278	1,490	2,248	881			

\* Includes male &amp; female enrollment





FISCAL YEAR 1985

TABLE 26

Target Population Enrollments by  
P.L. 94-482 Program Category



TABLE 26

## FY-85 ENROLLMENTS

## PROGRAM CATEGORY: 121 VOCATIONAL TRAINING

## ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POSTSECONDARY	ADULT
FEMALE				179	4326	5491	5856	2374	941
MALE				347	5747	6367	5941	1738	940

## ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK-NON HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	15022	1171	638	1817	48	394	80
MALE	16818	1219	852	1652	46	421	72

## ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	2037	7500	942	8281	410
MALE	3252	8749	1220	7668	191

TOTAL FEMALE 19170  
TOTAL MALE 21080  
TOTAL 40250



TABLE 26

FY-85 ENROLLMENTS

PROGRAM CATEGORY: 122 COOPERATIVE EDUCATION

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POSTSECONDARY	ADULT
FEMALE						73	132		
MALE						104	210		

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK-NON HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	166	17	5	12		1	4
MALE	262	17	7	24	1	1	2

ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	38	134	3	30	
MALE	67	201	5	41	

TOTAL FEMALE	205
TOTAL MALE	314
TOTAL	519

TABLE 26

## FY-85 ENROLLMENTS

## PROGRAM CATEGORY: 126 DISPLACED HOMEMAKERS

## ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POSTSECONDARY	ADULT
FEMALE								144	223
MALE								7	40

## ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK-NON HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	288	23	6	45		5	
MALE	40	2		4		1	

## ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	18	197	15	137	
MALE	3	25	1	18	

TOTAL FEMALE 367  
TOTAL MALE 47  
TOTAL 414

TABLE 26

## FY-85 ENROLLMENTS

## PROGRAM CATEGORY: 127 INTERAGENCY INDUSTRY SPECIFIC TRAINING

## ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POSTSECONDARY	ADULT
FEMALE									309
MALE								10	602

## ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK-NON HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	208	21	24	46	3	7	
MALE	407	33	47	110	3	12	

## ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	20	158	16	115	
MALE	25	398	23	166	

TOTAL FEMALE 309  
 TOTAL MALE 612  
 TOTAL 921

TABLE 26

FY-85 ENROLLMENTS

PROGRAM CATEGORY: 132 EXEMPLARY & INNOVATIVE

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POSTSECONDARY	ADULT
FEMALE				21	37	61	141		20
MALE				47	99	89	115		40

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK-NON HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	230	6	22	18		4	
MALE	344	9	15	17	2	3	

ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	54	58	20	148	
MALE	154	69	16	151	

TOTAL FEMALE	280
TOTAL MALE	390
TOTAL	670



TABLE 26

FY-85 ENROLLMENTS

PROGRAM CATEGORY: 134 GUIDANCE & COUNSELING

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POSTSECONDARY	ADULT
FEMALE		241	8202	3665	2624	2798	3124		25
MALE		265	9300	4673	3294	3074	3266		25

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK-NON HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	18490	789	297	871	31	199	2
MALE	21129	1001	409	1084	30	234	10

ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	1523	3747	613	14682	114
MALE	2369	4787	753	15876	112

TOTAL FEMALE 20679  
 TOTAL MALE 23897  
 TOTAL 44576

TABLE 26

FY-85 ENROLLMENTS

PROGRAM CATEGORY: 136 REDUCING SEX BIAS

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POSTSECONDARY	ADULT
FEMALE			3212	25	7	6	7		
MALE			3511	3	1	5	4		

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK-NON HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	1295	427	740	613	11	145	26
MALE	1380	306	1033	609	13	168	15

ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	370	1233	409	1245	
MALE	223	1521	305	1475	

TOTAL FEMALE	3257
TOTAL MALE	3524
TOTAL	6781

TABLE 26

FY-85 ENROLLMENTS

PROGRAM CATEGORY: 140 SPECIAL DISADVANTAGED

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POSTSECONDARY	ADULT
FEMALE				25	77	94	257		
MALE				25	140	136	223		

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK-NON HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	232	60	26	67	37	31	
MALE	248	93	30	86	38	29	

ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	25	366	62		
MALE	29	414	81		

TOTAL FEMALE	453
TOTAL MALE	524
TOTAL	977

TABLE 26

## FY-85 ENROLLMENTS

## PROGRAM CATEGORY: 151 CONSUMER/HOMEMAKING IN NON-DEPRESSED AREAS

## ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POSTSECONDARY	ADULT
FEMALE	2085	170	573	368	450	489	608		100
MALE	1998	150	397	238	221	326	389	1	35

## ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK-NON HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	4552	73	38	101	4	74	1
MALE	3546	53	36	74	4	42	

## ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	331	550	88	3874	
MALE	364	468	61	2862	

TOTAL FEMALE 4843  
TOTAL MALE 3755  
TOTAL 8598



TABLE 26

## FY-85 ENROLLMENTS

## PROGRAM CATEGORY: 151 CONSUMER/HOMEMAKING IN DEPRESSED AREAS

## ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POSTSECONDARY	ADULT
FEMALE	534	646	2610	512	528	632	661		5
MALE	583	606	2483	261	289	258	263		3

## ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK-NON HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	4790	520	319	416	3	59	21
MALE	3567	426	324	352		54	23

## ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	266	1584	363	3742	173
MALE	255	1231	318	2774	168

TOTAL FEMALE 6128  
 TOTAL MALE 4746  
 TOTAL 10874

TABLE 26

FY-85 ENROLLMENTS

JOINT OCCUPATIONAL - SPECIAL EDUCATION

ENROLLMENTS BY GRADE

	ELEMENTARY	MIDDLE SCHOOL	JUNIOR HIGH	GRADE 9	GRADE 10	GRADE 11	GRADE 12	POSTSECONDARY	ADULT
FEMALE					41	29	27		
MALE					63	48	50		

ENROLLMENTS BY ETHNICITY

	WHITE NON HISPANIC	WHITE HISPANIC	NON-WHITE HISPANIC	BLACK-NON HISPANIC	AMERICAN INDIAN	ASIAN	OTHER
FEMALE	83	7	2	4		1	
MALE	137	14	2	6		2	

ENROLLMENTS BY NEED

	HANDICAPPED	DISADVANTAGED	LIMITED ENGLISH	REGULAR	OTHER
FEMALE	97				
MALE	161				

TOTAL FEMALE	97
TOTAL MALE	161
TOTAL	258



- C. GOAL 3: TO IMPROVE VOCATIONAL EDUCATIONAL PROGRAMS AND SERVICES. THE PURPOSE OF THIS GOAL IS TO ENCOURAGE THE DEVELOPMENT AND IMPLEMENTATION OF UNIFORM STANDARDS IN ALL VOCATIONAL PROGRAMS; TO PROMOTE, SUPPORT, AND IMPROVE THE QUALITY OF STAFF DEVELOPMENT PROGRAMS; TO INCREASE STUDENTS' COMPETENCE AND CAREER DECISION-MAKING SKILLS; TO SERVE SPECIAL ADULT POPULATIONS; AND TO MEET EMPLOYMENT NEEDS IN NEW OCCUPATIONAL AREAS.

Several diverse aspects of the Commonwealth's progress in achieving this goal are described in this section:

1. Staff Training and Development
2. Community Based Organizations
3. Cooperative Education Programs
4. Vocational Education Act (VEA) and  
Job Training Partnership Act (JTPA) Coordination
5. Vocational Programs for Adults
6. Instructional Programs in Operation
7. The Massachusetts Vocational Curriculum Resource  
Center
8. Concurrent Meeting of National Network for  
Curriculum Coordination in Vocational Technical  
Education
9. Principles of Technology

1. Staff Training and Development

Teacher training activities included recruitment and pre-service training, a summer professional improvement conference, and local school based projects funded through the Commonwealth Inservice Institute. In addition, teachers and other school staff received inservice training targeted to curriculum improvement from the Massachusetts Vocational Curriculum Resource Center. A summary of teacher training activities and the number of participants is shown in Table 27.



TABLE 27

Summary of Fiscal Year 1985 Teacher Training Activities

<u>Activity</u>	<u>Number of Programs</u>	<u>Total Participants Served</u>	<u>Total Amount Funded</u>
Commonwealth Inservice Institute	15	307	\$30,234
Summer Professional Development Conference for Vocational Education	27	525	51,000
Competency-Based Vocational Education Curriculum Development Training	15	70	189,678*
Massachusetts Vocational Curriculum Resource Center, inservice sessions	59	1,093	146,758**

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\* This figure is the total budget for the Competency Based Vocational Education Program. The training of local school personnel in curriculum development, management, and evaluations is a key element of this program.

\*\* This figure is the total budget for the Center which includes funds for inservice sessions. A description of the Center's activities may be found on page XXX of this report.

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## COMPETENCY-BASED VOCATIONAL EDUCATION

In 1984-1985, at least 45 schools throughout the Commonwealth participated in the Competency-Based Vocational Curriculum Project with over 700 vocational and academic teachers having been trained in the program.

The Massachusetts Competency-Based Vocational Education Model, which is overseen by the Bureau of Program Services in the Division of Occupational Education, has two major components: a leadership project at Greater Lowell Regional Vocational School and the school-based curriculum projects which in 1984-85 were in eight schools: Blackstone Valley, Greater Lowell, Nashoba Valley, Brockton, Montachusett Regional, Pathfinder, South Shore, Shawsheen, Fanning and Blue Hills.

Curricula in seven program areas were developed that year to increase the total number of Competency-Based Vocational Education developed curricula to 21.

The first Competency-Based Vocational Education Dissemination Workshop workshop was conducted at Greater Lowell Regional Vocational School for superintendents and school staff responsible for curriculum/program development. Commissioner John H. Lawson addressed the group on the significance of this endeavor.

As part of the Competency-Based Vocational Education dissemination, a video tape outlining the Competency-Based Vocational Education process was produced by the Division of Occupational Education and Greater Lowell Regional Vocational School. The tape delineates the many roles involved in delivering Competency-Based Vocational Education including those of the State Board of Education and the Commissioner of Education. The video tape was first presented at the aforementioned Competency-Based Vocational Education Dissemination Workshop. The tape has since been shown to other school systems, rotary clubs, chambers of commerce, advisory committees, school committees and industry. The Competency-Based Vocational Education tape is available at the Division of Occupational Education in Quincy, all six regional education centers and Greater Lowell Regional Vocational School.

Twenty states have requested copies of our Model Competency-Based Vocational Education Curricula and at least five states have visited Greater Lowell and the Massachusetts Vocational Curriculum Resource Center for additional technical assistance. We have been invited to major national curriculum conferences to present the Massachusetts Competency-Based Vocational Education Model.

The Division of Occupational Education, in collaboration with the leadership project staff, planned and conducted a series of workshops for the training of the staff of the pilot schools.



These training sessions were conducted as part of the Annual Professional Development Conference at Fitchburg State College.

Staff Development - up to a total of 30 hours per year - toward professional improvement have been directed towards three specific components:

- (a) Competency-Based Vocational Education curriculum review, adoption and development
- (b) test construction - knowledge and performance tests
- (c) implementation and dissemination techniques

Resources are being collected and housed at the Massachusetts Curriculum Resource Center at Minuteman Regional Vocational School in Lexington where the staff provides technical assistance.

The results of staff training, curriculum development and implementation included:

1. staff trained in evaluation, adaptation, adoption and development of Competency-Based Vocational Education curriculum
2. staff experienced in Competency-Based Vocational Education implementation and management
3. staff trained as leaders - assist in dissemination and technical assistance
4. pilot schools serving as demonstration sites
5. curriculum content verified by educators, employers and other training institutions
6. copies of a model curriculum in each program area available to vocational schools
7. 200 copies of a Competency-Based Vocational Education staff training manual for the use of future adopters.

A Competency-Based Teacher training program is another salutary result of Competency-Based Vocational Education. A task force composed of representatives of the vocational community in conjunction with the Division of Occupational Education developed a competency-based teacher training program which has been implemented this fall by the following three higher education institutions: Fitchburg State, Westfield State and University of Massachusetts, Boston. In addition to being competency-based, an important component of this teacher training model is that it includes Competency-Based Vocational Education as a validated competency for all teachers.

The Commonwealth Inservice Institute grants are a primary funding source for teacher initiated inservice training. The instructor determines which program offering will best assist the school as a whole and establishes a program to meet that need. The individuals receiving the instruction benefit by receiving credit toward their professional improvement (the maintenance requirement for Chapter 74 vocational approvals) as well as receiving information that updates their professional skills. In recent years, popular topics have included courses for vocational instructors of special needs students, application of the computer to the trade areas, and introduction to high technology. In summary, the basic purpose of these grants is to upgrade the quality of vocational instruction.

Via the Competency-Based Vocational Education (CBVE) curriculum development projects, the Division has coordinated and supported the development of a staff training manual and the revision of the vocational curricula. This is done by monitoring the staff training for the project schools, by monitoring the curriculum development projects, and providing technical assistance in developing the products. The new curricula in seventeen program areas have been validated state-wide by industry and by vocational educators. This insures that the material is current, job relevant and applicable at all locations. In addition, the CBVE program provides cost effective staff training and resources for individualized instruction which address the needs of special populations as well as the other students and instructors.

During 1985, the Division supported the development and production of a training program to meet the unique needs of prospective vocational instructors, those skilled in their trade or technical area but with no pedagogical skills. Frequently, individuals join the teaching profession not having entered a classroom since graduating from high school. This situation is due to the difficulty in finding fully trained vocational-technical instructors. Basic competencies needed for vocational teaching have been identified and a program of instruction enabling newly employed teachers to develop basic teaching skills prior to entering the classroom has been developed. A survival skills manual will be produced and distributed during 1986.

The eighteen-credit vocational teacher training program was revised and converted to a competency-based format. The final validated competencies reflect the collective thought of members of the vocational community, industry and higher education. The uniqueness of the competency-based mode is in its relevancy to Massachusetts and appropriateness to vocational education in this state. Competency-based teacher training offers a dynamic curriculum, unrestrained by textbooks and with statewide consistency.



The Annual Professional Development Conference was held at Montachusett Regional Vocational Technical High School during three days in the last week in June. The change from a four day format resulted from a belief that it might appeal to a greater number of individuals. Occupational updating and professional development was provided in twenty-seven (27) program areas. Other facilities were used such as St. Bernard's Church Center for the administrator's workshop and Minuteman Regional Vocational Technical High School for the auto body workshop. The conference represented an industry-education collaborative effort to assist vocational educators in maintaining the state-of-the-art in their trade or technical areas. Approximately 120 organizations were involved representing business, industry and labor, as well as educational and governmental agencies from all levels. Participants were encouraged to attend sessions devoted to trade areas other than their own specialty. There were groups devoted to CBVE, vocational competency testing and special needs. A highly successful feature was "Tips in Testing" derived to assist individuals experiencing difficulties in preparing for and taking exams. It is anticipated the conference will return to the four-day format in 1986.

A major objective of the Office of Professional Development is to obtain qualified vocational personnel for Chapter 74 vocational programs. Tradespersons who want to teach and have the required work and educational background must pass both written and practical competency examinations in their trade area. This ensures that individuals are entering the teaching profession with adequate trade competencies. Approximately 300 candidates were tested in 1985 in 40 trade areas. The project also provides for the development of tests in new program areas as well as the continual determination of the validity and reliability for all developed tests. A test item bank has been developed. The project, which is housed at Fitchburg State College, administers the written exam in March and October and the practical test in May.

## 2. Community Based Organizations

During fiscal year 1985, programs in seven community-based organizations were funded for a total of \$263,206. These programs focused on educationally disadvantaged minority youths enrolled in or planning to enroll in vocational programs, and provided services such as remedial education, guidance and counseling, drop out prevention, and follow up.

Of the seven funded programs, six were located in Boston and one in Springfield. The community based organizations funded in fiscal year 1985 are as follows:

Chinese American Civic Association  
Dimock Community Health Center  
E.S.A.C. (Ecumenical Social Action Committee)  
Jobs For Youth, Inc.  
Oficina Hispana Comunidad  
Roxbury Multi Service, Inc.  
Youth Opportunities Upheld Inc.

### 3. Cooperative Education

Students in cooperative education programs were placed in part-time jobs related to their vocational training. Students participated in alternate periods of employment and instruction at the school. To be eligible, students had to maintain average or above average grades and be in their junior or senior year. A cooperative education director was responsible for finding job placements and monitoring students at the work site. Pupils were paid wages consistent with employees doing similar work, and employers hiring youths from targeted groups were eligible to receive tax credits.

The following two projects are examples of cooperative education programs funded in fiscal year 1985.

#### Cooperative Education, Millbury Public Schools

This project provided supportive services in individual and group guidance sessions for disadvantaged students and potential dropouts enrolled in the business department. Students were made aware of further career opportunities and training at post high school business and secretarial schools. In small group and individual meetings with the corporate counselor, students developed proficiencies in job interviewing, resume writing and job seeking and job maintenance skills. Cooperative site placements were found for qualified candidates in training related occupations.

A total of 32 students were served by this project. The evaluations of student teachers, aides, and the high school principal and the advisory committee all were very positive. The shadowing and internship programs especially were effective in providing students with a better understanding of the duties and responsibilities associated with certain occupations. The cooperative education coordinator was able to develop employment opportunities through Job Training Partnership Act for those students who were economically disadvantaged.



The project exposed vocational students to the world of work and attempted to meet the individualized needs of a special needs student population. In addition to establishing a working relationship with various businesses in the Millbury area, the staff developed a resource file for future job placements. Most importantly, students received the necessary special services to be successfully mainstreamed in the vocational learning alternative of their choice.

Cooperative Supervisor for Disadvantaged, Weymouth  
Public Schools

The primary purposes of this project were to identify cooperative education site placements for disadvantaged students, and to provide intensive supervision at both their school and work sites in order to ensure their success in the cooperative work placements. Typically, these disadvantaged students have had minimal success in placements, and drop-out rates from these vocational programs have been high.

The project supported the funding of a cooperative supervisor who provided supplementary support and intensive supervision for 84 disadvantaged students enrolled in the Weymouth Vocational Technical High School Cooperative Education program. The cooperative supervisor performed many activities that enhanced the usefulness of the project, including:

- o placing students in cooperation employment positions with community employer
- o supervising students through work site visits
- o completing written performance evaluations
- o leading career awareness seminars in small groups
- o coordinating the public relations efforts to enhance the participation of community businesses in the program.

4. Vocational Education Act (VEA) and Job Training Partnership Act (JTPA) Coordination

A. Background

The Carl Perkins Act and the Job Training Partnership Act both contain specific mandates for coordination. Both Acts require that state administering agencies for employment and training and vocational education coordinate their planning and programming activities. The new legislation requires that state agencies share labor market information and that membership on state councils overlap. In addition, under the new Carl Perkins Act, the Department of Education must submit its plans to the State Job Training Coordinating Council and local recipients of vocational education funds

must describe their coordination with local Job Training Partnership Act programs and must make their local plans available for review.

**B. Results of the Carl Perkins Vocational Education Act/Job Training Partnership Act Coordination in Massachusetts in Fiscal Year 1985.**

Under a memorandum of agreement between the Department of Education and the Executive Office of Economic Affairs the Department of Education agreed to conduct a range of activities relevant to the Job Training Partnership Act eight percent educational coordination funds. The Department of Education agreed to carry out the following activities between the Job Training Partnership Act system and state/local education agencies in the provision of education and training services:

1. To provide the Executive Office of Economic Affairs with coordination of entities providing Job Training Partnership Act services through Department of Education regional offices;
2. To provide technical assistance on educational training programs upon request;
3. To be a full participant in the distribution of funds through the Request For Proposals process, and to work in collaboration with the Executive Office of Economic Affairs on the development of the Request for Proposals, on reviewing proposals submitted, and on recommending proposals for funding.

At its meeting of January 24, 1984, the Massachusetts Board of Education established the Bureau of Education, Training and Employment within the Division of Occupational Education. This bureau was given two mandates:

1. To oversee the implementation of Board recommendations relating to the education for employment of youth in the Commonwealth;
2. To coordinate the various initiatives of the Massachusetts Department of Education under the new Job Training Partnership Act.

A bureau director in the Department's central office was made responsible for the coordination of activities with the Executive Office of Economic Affairs Office of Training and Employment Policy. A bureau staff person was also outstationed in four of the six regional offices of the Department across the state, to work directly with local educational agencies and the Job Training Partnership Act service delivery areas/Private Industry Councils.

The Department of Education undertook a series of coordination,



technical assistance and information dissemination activities during fiscal year 1985 to facilitate cooperation between the employment and training system and state/local education agencies.

Major activities include:

Coordination

- o The Commissioner of Education was an active member of the State Job Training Coordinating Council.
- o The Commissioner of Education and the Associate Commissioner for Occupational Education presented the Three Year Plan for Vocational Education to the State Job Training Coordinating Council and to its subcommittee - the Governor's Youth Coordinating Council, for review and comment.
- o The Commissioner of Education, with the Secretary of Economic Affairs, cochaired the Governor's Youth Coordinating Council which was established to improve employment and training services for at-risk youth.
- o The management staff of the Division of Occupational Education met with the Governor's Youth Coordinating Council and with the staff of the Office of Training and Employment Policy to review in detail each section of the Three Year Plan for Vocational Education.
- o Department of Education staff participated in reviewing proposals and in the final recommendation for funding for the eight percent education coordination grants.
- o The Department cofunded with the Executive Office of Economic Affairs, under the aegis of the Youth Coordinating Council, four youth demonstration projects for at-risk youth between the ages of fourteen and twenty-one.
- o The Director of the Education, Training and Employment Bureau was an active member of three subcommittees of the Governor's Youth Coordinating Council.
- o The Division of Occupational Education required each eligible grant recipient to submit their local plans to their area Private Industry Council for review and comment.
- o The Division of Occupational Education established procedures to notify each local Private Industry Council of all grant awards.
- o The Division of Occupational Education collaborated with the Division of Curriculum and Instruction on developing policies and establishing programs for adult education, school business partnerships, and dropout prevention programs.

### Technical Assistance

- o Through its regional Education, Training and Employment Bureau staff, the Department provided technical assistance to Service Delivery Areas (SDA's) and local education agencies to link school systems and SDA's for joint planning in response to state established 8% funding criteria.
- o Regional Education, Training and Employment Bureau staff provided technical assistance to SDA's on developing youth competencies. In addition, Department staff assisted SDA's in utilizing the Massachusetts Vocational Curriculum Resource Center which is sponsored by the Division of Occupational Education.
- o Regional Education, Training and Employment Bureau staff provided technical assistance and information to state human service agencies. Regional staff worked with agency staff from the Department of Social Services, the Department of Mental Health, the Office for Children, and the Massachusetts Rehabilitation Commission.
- o Bureau staff provided technical assistance and disseminated information on employment and training for the handicapped and disabled.
- o The Education, Training and Employment Bureau cosponsored a "Pathways to Employment Conference" with the Massachusetts Rehabilitation Commission in the southeast region of the state.
- o Regional staff assisted the state Department of Personnel Administration to recruit minority applicants from local high schools for entry level civil service positions.

### Information Dissemination

- o Staff of the Education, Training and Employment Bureau disseminated information on the Job Training Partnership Act to groups of school superintendents, vocational education superintendent directors, secondary school principals, and occupational education directors.
- o An information dissemination seminar on the Job Training Partnership Act was conducted at the annual Massachusetts Vocational Association conference.
- o Staff of the Education, Training and Employment Bureau disseminated information on the implications of the Carl Perkins Act and the states vocational education funding procedures to various groups of non-educators across the state.



- o Staff of the Education, Training and Employment Bureau provided information and built links between school systems and the Bay State Skills Corporation across the state.
- o Staff of the Education, Training and Employment Bureau disseminated information on Child Labor Laws to various groups and organizations across the state.
- o Staff of the Education, Training and Employment Bureau disseminated information on Job Training Partnership Act and the Carl Perkins Act to Private Industry Councils, to Regional Education Councils, and to parent groups.
- o Staff of the Education, Training and Employment Bureau attended a National Governor's Association sponsored training for trainer's sessions on the Job Training Partnership Act and youth competencies.

#### The 1984 - 1985 School-To-Work Program

In July, 1984, the Massachusetts Legislature appropriated \$1.5 million for "matching grants for various School-To-Work Programs" under Chapter 188 of the Acts of 1984. The state Board of Education was instructed to administer these funds. After soliciting input from the Executive Office of Economic Affairs, the Board of Education adopted guidelines for School-To-Work Programs at its meeting on August 28, 1984.

School-To-Work Programs were operated in over 80 Massachusetts high schools and communities during fiscal year 1985. These programs were designed to meet the needs of educationally and academically disadvantaged youth who lack the job readiness skills required to become employable citizens. A total of 2,354 students were served between November, 1984, and June, 1985. Of those students, 57% were female, 34% disadvantaged, 22% ethnic minority (including 12% black and 9% Hispanic), 5% handicapped, and 2% limited English speaking. State funds totaling \$1,380,982, supplemented by \$785,640 in local matches, were utilized in serving these students.

The principal focus of activities was to provide services that prepare students for entering the world of work and that provide liaison between students completing their high school education and employers. The programs typically provided vocational counseling, motivation, job seeking and job keeping skills, training, placement, and follow-up services.

The 15 organizations funded to operate programs were selected through a Request-for-Proposals issued by the Education, Training and Employment Bureau of the Department of Education. Technical assistance in proposal writing was provided by the Department of Education staff to potential bidders. The organizations funded to operate these School-To-Work Transition Programs included local education agencies, public school collaboratives, Private

Industry Councils, Service Delivery Areas, and community-based organizations. Each program also included an advisory committee representative of business, labor, secondary schools, governmental agencies, and existing employment and training agencies. Quarterly status reports on School-To-Work Programs were prepared by the Department of Education and submitted to the state Legislature and the state Board of Education.

The single largest service provider, Jobs for Bay State Graduates, Inc., operated programs in 22 high schools in 17 cities and towns across the Commonwealth, and served a total of 1,372 students. As of June 30, 1985, they showed a 68% success rate: 65% of their program participants were already successfully employed, and another 3% were enrolled in further training or had enlisted in the military.

Fourteen other organizations operated smaller programs, usually serving students in a single school, city, or district. Four innovative projects, operated by the Job Training Partnership Act (JTPA) administrative entities in Cambridge, Brockton, Boston, and Berkshire County, were cofunded by the Office of Training and Employment Policy of the Executive Office of Economic Affairs, utilizing JTPA 8% Education Coordination Funds. These four projects are part of a youth demonstration model encouraging interagency coordination at the state and local levels.

One project was run by the Boston Private Industry Council serving students in the city of Boston, and a newly-formed private nonprofit organization, MY TURN, Inc., operated a program serving students in Brockton Public High School. The public school systems in North Attleboro, Leominster (in collaboration with the town of Gardner), Somerville, Revere, Marlboro, and West Bridgewater (in collaboration with the town of East Bridgewater), operated projects serving students in their communities. And two public school collaboratives, the South Berkshire Educational Collaborative and the Blackstone Valley Educational Collaborative, operated programs serving students in their member schools.

#### School-To-Work Program Outcomes

The most significant and immediate effect that School-To-Work Programs have on their participants is that when students leave the program they are quickly employed, and their long-term job retention rate is very positive. Job placement activities typically intensify during the summer months following the program participants' graduation from high school. All funded programs are required to provide, as part of the local match, ongoing follow-up services through December, 1985 to students enrolled in the programs.



However, reports submitted by the local programs indicate that as of June 30, 1985, 55% of the students who participated in the programs were already competitively employed. Another 5% were enrolled in further training/education or had enlisted in the military, making a total of 60% of program participants with positive outcomes as of June 30, 1985.

Additionally, 22% of program participants were continuing to receive services (primarily job placement assistance) after June 30, 1985. All funded programs will submit follow-up reports covering the 6 months of follow-up services.

Program dropouts or unsuccessful terminations accounted for 7% of School-To-Work Program participants. Included in this category are those students who left the program due to dropping out of school, moving to another city, schedule conflicts with other activities, lack of interest, etc.

(Refer to Table 28 for complete breakdown of program outcomes.)

These first year results are particularly impressive in light of the fact that none of the programs funded in fiscal year 1985 were able to operate for a complete (twelve month) year. This was due to the fact that the funds were appropriated by the state legislature in July, 1985, and therefore, the first Department of Education Request-for-Proposals and selection process was not completed until October, 1985. Thus, the eight projects funded through the first Request-for-Proposals operated for the eight months of November, 1984 through June, 1985. The Request-for-Proposals was reissued in October, 1984, and the Department of Education staff worked with schools in targeted areas across the state to encourage and assist in the preparation of proposals for School-To-Work projects. Subsequently, four projects were funded for the 5 month period February - June, 1985, and 3 additional projects were funded for the 4 month period March - June, 1985.

TABLE 28

SCHOOL-TO-WORK PROGRAM  
FISCAL YEAR 1985  
PROGRAM OUTCOMES - JUNE 30, 1985

	TOTAL	BY GENDER		BY ETHNICITY						BY NEED				(*) Other	
		Male/Female	White Non-Hispanic	White Hispanic	Non-White Hispanic	Black	American Indian	Asian	Other	Handi-capped	Dis-advan-taged	Limited English	Regular		
TOTAL NUMBER OF STUDENTS SERVED	2,354	1,009	1,345	1,835	119	83	282	3	27	5	101	816	53	1,373	11
NUMBER OF STUDENTS PLACED IN JOBS	1,287	519	768	978	78	42	173	2	13	1	51	411	34	791	0
OTHER POSITIVE OUTCOMES (Further Training/Higher Education, Military)	115	57	58	87	8	2	14	0	2	2	13	73	3	26	0
PROGRAM DROPOUTS/ UNSUCCESSFUL	174	83	91	137	5	14	14	0	3	1	13	67	15	68	11
CURRENTLY ENROLLED/ RECEIVING SERVICES	508	225	283	378	24	25	75	0	5	1	15	213	10	270	0

(\*) Other Students - are students which service providers identified as needing specialized support services but were not identified as handicapped or special needs students by school systems. Such students might be court-involved, pregnant, or in the custody of a state agency.





## 5. Vocational Programs for Adults

During fiscal year 1985, federal vocational education funds were used to provide skills training and counseling services for adults through programs in vocational schools, community colleges, and correctional institutions. Recipients of the federal grants were required to show labor market demand for the training to be offered and to recruit and enroll target populations, including displaced homemakers and unemployed, underemployed, minority, handicapped, academically and economically disadvantaged, and limited English proficient students.

Funds were awarded in four categories:

- A. Displaced Homemaker Programs
- B. Vocational School Adult Training Programs
- C. Community College Occupational Programs
- D. Correctional Institutions Skills Training Programs

### A. Displaced Homemaker Programs

Ten programs designed to provide occupational skills for displaced homemakers were funded at a total of \$281,245 through competitive requests for proposals. Nine community colleges and one public school educational collaborative provided skills training to 275 women who needed to enter or reenter the work force due to divorce, death, or disability of a spouse.

<u>Training Areas</u>	<u>No of Programs</u>
Secretarial, Clerical, and Word Processing	4
Computer Aided Drafting	2
Licensed Practical Nurse and Nursing Assistant	2
Computer Technician	1
Food Service	1

Assistance with referrals, recruiting, and counseling was provided by the state-funded Displaced Homemaker Centers of the Bay State Skills Corporation.

Bunker Hill Community College received \$21,160 to operate a 416-hour food service program for 25 displaced homemakers. By graduation, 96% of the graduates were placed in jobs related to their training; one year later 100% percent of them were employed.



## B. Vocational School Adult Training Programs

In fiscal year 1985, sixteen public school districts received grants totaling \$1,676,329 to provide short-term training for adults. Programs were designed to provide skills for immediate employment in the local community.

Grant recipients were required to show state or local labor market demand for the training offered and to target enrollment of dislocated workers, displaced homemakers, and handicapped, minority, disadvantaged, and limited English proficient students.

<u>Training Area</u>	<u>No of Programs</u>
Air Conditioning	1
Auto Mechanics/Auto Body	3
Building Maintenance and Rehabilitation	3
Carpentry	1
Computer Related	6
Computer-Aided Drafting	2
Electronics	1
Food Service	2
Horticulture	1
Welding	3
Word Processing/Office Occupations	7

Greater Lowell Regional Vocational School received a \$125,000 grant to operate a program designed to retrain 30 unemployed adults as computer programmers and operators. All completers were employed within three months of graduation. The program was selected for commendation by the U.S. Department of Education.

### Other Adult Programs

In fiscal year 1985, \$92,040 was awarded for three Industry Specific Training Program which were funded in response to local employment training needs. Northeast Metropolitan Regional Vocational School received \$25,125 for a graphics program that trained 20 unemployed teachers, municipal workers, and other professionals in high-technology graphic arts skills. Participants were provided with laboratory and classroom instruction in computer-assisted design, computerized and photo typesetting, paste-up, proofing, stripping, camera, platemaking, and darkroom techniques. Students were placed in internships during the last three weeks of this 180-hour program. Permanent placement was over 90 percent with a variety of local employers, including several high technology firms. Funding level was \$25,125.

### C. Community College Occupational Programs

In fiscal year 1985, \$1,272,920 was awarded for occupational programs at the 15 state-supported community colleges and one municipal junior college. These programs were designed to provide entry-level or advanced training for postsecondary students in areas of documented occupational demand. Target populations were displaced homemakers, dislocated workers, and minority, handicapped, disadvantaged, and limited English proficient students.

Thirty-three projects were funded:

	<u>No. of Programs</u>
Accounting	2
Computer	6
Computer-Aided Drafting/Drafting	4
Culinary	1
Electronics	3
Graphic Design	1
Health	4
Laboratory Technology	2
Quality Assurance	1
Robotics	1
Travel	1
Welding	1
Word Processing/Secretarial	6

Roxbury Community College was awarded \$84,698 for a program in Electronics Technology which enabled the college to acquire new robotics and computer maintenance equipment. Fifty-one people were enrolled in robotics and computer maintenance courses.

### D. Correctional Institutions Skills Training Programs

For Fiscal Year 85, \$145,564 was distributed by competitive request for proposals to eight correctional facilities.

Training offered included one program each in cooking, electronic test, engine repair, graphics, microcomputers, and plant maintenance, and two in welding.

Hampden County House of Correction in Springfield operated a program of pre-employment training designed to make inmates more successful in job search and also offered graphics training in which 80 percent of the completers found employment.

Norfolk County House of Correction implemented a microcomputer training program for 70 students. The institution was able to attract a donation of two microcomputers and two months of an instructor's time. Inmates developed original programs, one to assist in admitting inmates at the correctional facility and another to estimate the costs of laying floor coverings for an inmates family's contracting business.



## 6. Instructional Programs in Operation

In fiscal year 1985, there were approximately 150 different vocational educational instructional programs available for students in secondary and postsecondary schools. The goal of these programs was to prepare students for employment or for a career not requiring a baccalaureate or other advanced degree.

Federal funds enabled school systems to develop new programs and expand program offerings.

The following describes a small sample of the instructional programs offered in six occupational areas: health, vocational home economics, trade and industry, technical, marketing and distributive education, and vocational agriculture.

### A. HEALTH

#### Health Occupations Expanded II, Northeast Metropolitan Regional Vocational School

This project hired three additional part-time staff persons to accommodate increasing enrollments and provide regular and supplemental instruction to students in the Dental Assistant, Dental Technician, and Nursing Assistant programs. The school's decision to expand these programs was justified by three factors: increasing local labor market demand for qualified workers in these health fields, evidence of the prior success of these programs, and the existence of the physical facilities to accommodate this expansion.

This project allowed the Vocational School to successfully respond to the increased demand for skilled employees in the allied health field. A total of 26 additional students were able to enroll in the Dental Assistant, Dental Technician, and Nursing Assistant programs. Students in the Dental Assistant and Dental Technician programs received classroom instruction and lab training in utilization of instruments; working with patients; office procedures; making bridges, dentures, and crowns; casting and orthodontics. Nursing Assistant students received related and lab instruction in office management, medical equipment and procedures, and examining room procedures.

#### Dental Assistant Program, Boston Public Schools

This program prepared 21 students in grades 11 and 12 in all phases of dental assisting. Students received training through a combination of classroom instruction and clinical experience provided at local dental clinics and dental offices.

The project was successful, as indicated by both its retention of students and placement of program completers. About 80% of the first year students will return. Approximately 90% of the second year students completed the program; 2 are pursuing additional education in the dental field, 3 are employed in private dental offices, and 3 students successfully completed clinical externships at neighborhood health units. In addition, one senior won first prize in a state competition and will go on to the national competition.

Project: Expanding Health Occupations, Montachusett  
Regional Vocational High School

This project re-established a Dental Laboratory Technician program at Montachusett Regional Vocational High School. Entering tenth graders received 540 hours of skills training in all phases of dental technology, such as fabricating gypsum tooth models, investing molds from wax to plastic, and repairing false teeth and dentures. Federal funds were used to hire a laboratory instructor and a part-time health occupations trainer, and to purchase an electronic casting machine and other necessary instructional supplies.

The Expanding Health Occupations project is a good example of how the careful monitoring of local labor market needs can lead to improved programs for students. This project reinststituted dental laboratory technology at Montachusett (which had been discontinued four years earlier) in response to local demand for trained employees in this field. For example, in the Wakefield, Massachusetts area students are being hired for after school work while still in training and the prospects for follow-up employment are excellent.

Vocational Support-Health Aide, Springfield Public Schools

This project provided 86 disadvantaged students in grades 10-12 supportive services in shop related theory and laboratory experiences in the existing Health Aide program. A full-time vocational instructor provided students with at least 4 periods weekly of related science, math, and shop background. The instructor also gave additional support services to these disadvantaged students in their clinical laboratory experiences in hospitals, pediatric and geriatric care facilities throughout the city.

The supportive instruction provided by this project was succcessful, as indicated by both the retention of students and the placement of program completers. Student enrollment throughout the year remained consistent, with a drop-out or non-completion rate of only 3%. Of the 28 seniors who completed the program, 56% were placed in employment within the allied health area immediately upon graduation. And, about 7% of the program completers are pursuing additional education, in the postsecondary Licensed Practical Nursing program at Putnam Vocational Technical High School.



## B. VOCATIONAL HOME ECONOMICS

### Home Management, Billerica Public Schools

This project was an outgrowth of the highly successful program offered to junior high school students the previous year, and was designed to recruit and enable male and female high school students to acquire the basic home management skills required for everyday living. Thirty-four students in grades 9-10 received instruction one period per day in clothing care and repair, consumerism, meal planning and nutrition, home care and child care. A part-time instructional aide provided individualized instruction, organized shadowing experiences, and arranged for guest speakers and field trips.

The success of this project is reflected in both the continued interest of students in pursuing training in Home Management and the specific skills they have acquired. In the face of declining enrollments and an increase in the required core courses, students continue to select Home Management as a result of their initial exposure to how each component contributed to and enriches their everyday living.

In addition to a renewed interest in Home Management, the project provided students with several specific skills.

- o Students became familiar with non-traditional roles in child rearing as a result of participating in simulated child care practices.
- o Basic laundry procedures and consumer skills in the selection of laundry products enabled students to become better consumers.
- o Laboratory experiences enabled students to develop well-balanced, nutritional meals within a certain amount of money allocated for their individual projects.

### Comprehensive Parenting Education, Somerville Public Schools

This project served two main functions. First, it provided a parenting education series for middle school students. All grade 7 and 8 students enrolled in a Practical Arts Program in the 5 Somerville elementary schools received instruction in areas such as: child care, the stages of human development, elementary nutrition, consumer related skills, and decision-making.

Second, this project provided a support network for teen parents. For preganant and/or teen parents, a peer group was formed to provide support and academic instruction, with special emphasis on addressing the concerns of the parents of these teen parents.

The parent education program for middle school students served over 1,000 seventh and eighth grade students; almost half of these were males. The peer support aspect of the project provided assistance to 4 students in grades 10-12. The project is notable for at least two reasons: (1.) it uses an early intervention approach by providing parenting education for middle school students, and (2.) the peer support group is multifaceted and addresses not only the academic needs of teen parents, but also their economic, emotional, and social needs.

Home Economics Computer System/Application Instruction,  
Weymouth Public Schools

This project hired an instructor certified to teach Home Economics who also had experience in the use of microcomputers. This instructor researched and identified appropriate software programs and prepared computer lessons and exercises suitable for the different areas of the Home Economics curriculum. Home economics students and the home economics teachers in the two Weymouth High Schools were given instruction on the implications and applications of the computer for home management.

This project successfully introduced a technological upgrading of the Home Economics curriculum and exposed students to the potential of computers in home and family management. About 239 students in grades 9-12 participated in the program; 68 of these students were males. Students learned to operate the computer, access information, gather information, and make decisions related to the computer in all areas of the comprehensive home economics curriculum, such as:

- o Foods and Nutrition, e.g., assessing food choices and entering recipes into a computer file;
- o Clothing and Textiles, e.g., examining the computerization of clothing selection and pattern alteration;
- o Child Development and Family Relations, e.g., examining software parents might select for children's use; interacting with problems facing families through computer simulation;
- o Housing and Home Management, e.g., using the computer to develop inventories and schedules;
- o Consumer Economics, e.g., developing monthly spending plans; using computer for software tax accounting;



### C. TRADE AND INDUSTRIAL

#### Vocational Support-Graphic Arts, Springfield Public Schools

This project provided supportive shop related instruction to 78 disadvantaged students in the Graphic Arts program. The instruction was designed to enhance comprehension of trade theory and application, in order to ensure that these students gained the skills and competencies necessary for employment in the graphic arts profession. Students received a minimum of 4.5 hours weekly of supportive instruction within the related theory classroom, as well as skills training support in the graphic arts shop.

The project was successful as indicated by both student retention and student placement. Student enrollment remained consistent throughout the year, and there was a significantly reduced drop-out or noncompletion rate for these disadvantaged students. Of the 20 seniors who completed the program, 62% were placed in jobs in the graphic arts field. And, 7 of the 8 nontraditional students (females) were placed in training-related jobs upon graduation.

Project Upgrade, Natick Public Schools

This project upgraded the Graphic Arts and Business Departments at Natick High School. A total of 168 students in grades 10-12 developed entry level skills in either word processing or computerized typesetting. The addition of a standalone word processor, letter quality printer, photo-stat camera, and microcomputer was intended to allow each program to increase its enrollment by 20%.

The project both helped revitalize the graphic arts program and provided students with state-of-the art skills. By increasing the number of work stations in the graphic arts area, the number of students enrolled in graphic arts has significantly increased. The project has also received the support of the business community; the district received a corporate donation of additional typesetting equipment.

The new equipment also provided graphic arts students with valuable skills in computerized typesetting, layout and paste-up, and using a photostat camera.

General Maintenance for Special Needs Students, Boston  
Public Schools

This program provided 16 substantially separate special needs students (502.4 prototype) in grades 10-12 with entry level skills in General Maintenance. Students were taught cleaning, buffing, drywall repair, painting, and surface maintenance. Job search counseling and placement assistance were also provided.

The project was successful in at least two important ways. First, the program demonstrated what can be done for special needs students in vocational education. Students in this project learned their maintenance skills by performing on the work crews that were used to maintain the Hubert Humphrey Occupational Resource Center. The students' visibility helped faculty, visitors, and other students to realize that special needs students can succeed in real world situations.

Second, the individual progress of students was dramatic. Students made significant progress according to individual progress record charts. Four graduates gained employment in the maintenance field or a support program related to maintenance. And, seven students were placed in summer jobs in building maintenance.

Computer Assisted Drafting, Greater Fall River Regional  
Vocational Technical School

This project provided 50 students with training in computer assisted drafting. Federal funds were used to purchase state-of-the-art equipment, including four disk drives, 2



monochrome screens, 2 color screens, 2 digitizers, and 1 plotter. The training was designed to enable students to set up and operate the computerized system, and to produce finished drawings using the system.

The project was a direct response to local labor market need for drafting students trained in computer assisted drafting. Input from the advisory committees and cooperative education work-sites indicated that several employers in the Fall River area had modernized their equipment to reflect computer assisted drafting technology and needed employees trained in this technology. Thus, the addition of computer assisted drafting to the drafting program has greatly improved the employability of students.

#### Welding and Metal Fabrication, Gateway Regional School

This project continued into the second year the implementation of a vocational Welding and Metal Fabrication program. Funds were used for essential equipment and supply purchases, and Gateway Regional School District funded the instructor and provided the needed facilities. The project provided 15 students in grades 10-12 with entry level skills in welding and metal fabrication, such as knowledge of safety regulations, use of hand and power tools, familiarity with materials used in the trade, applying measurements, and estimating the cost of materials and time. As part of the training, each student planned and completed an individual project that demonstrated his or her mastery of the component skills.

This project not only had an important and direct effect on the skills training of students in welding and metal fabrication, it also had a far-reaching effect on vocational education in general at Gateway Regional School District.

The school district has long been tuitioning students to other school districts for vocational education. This project represented the initial effort to provide quality vocational education at the local level. The success of this project has stimulated a second locally funded carpentry program, and both programs are being structured as approvable Chapter 74 state supported programs.

#### D. TECHNICAL

##### Electrical Occupations Equipment, Leominster Trade High School

This program served 19 students in grades 10, 11 and 12 in the electrical course. The project purchased up-to-date electrical supplies and equipment. As a result of the program, students learned the installation of electrical services in both residential and commercial applications.

Students also learned to use electrical equipment such as logic trainers, soldering kits and multimeters.

Prior to the funding of this project, there existed a severe shortage of equipment and supplies. Because the condition existed for the past few years, graduating electrical students were not able to compete successfully in the labor force, and job and cooperative placements declined drastically. The program now has adequate supplies and up-to-date equipment and instruction in a rapidly changing field. As a result, the data this year suggests a dramatic increase in co-op placements and job placements.

Robotics, Pathfinder Regional Vocational Technical High School

This project funded the equipment needed to add a Robotics component to the existing Electronics programs. Equipment purchases included 4 dual trace oscilloscopes, 3 electromechanical units, and 2 microprocessors. A total of 33 students (including 4 females) from 4 area schools received training in the terminology of robots; use of hydraulic and pneumatic systems; basics of programming and troubleshooting. The grade 11 students spent 30% of their skills training time in robotics, while the grade 12 students spent 50% of their time in this area.

This project enhanced the employability of students in the electronics job market by providing them with skills needed in the newly-emerging area of Robotics. As a result of this program, the 11th grade students were able, with the aid of related instruction and the construction of actual robotic circuits, to master the basic circuitry used in a robot. The 12th grade students were able to move into the actual programming of the robot and, with specialized equipment, learned how to analyze the internal circuits of the robot. These students were also familiarized with the industrialized use of robots on production lines.

Data Processing II, Whittier Regional Vocational Technical High School

This project facilitated the expansion of the Data Processing program, which was needed to accommodate increasing enrollments. Federal funds were used to hire a data processing instructor and to purchase supplemental equipment, including desktop video terminals, peripherals, and related materials. A total of 65 students in grades 10-12 received hands-on training in word processing, automated accounting, automated forms management, and COBOL and BASIC programming languages. The training was intended to prepare students for entry-level jobs in growth fields, such as data entry, systems operator, word processor, junior programmer, and junior accountant.



This project successfully increased the capacity for serving students in the data processing area, upgraded the curriculum, and expanded the equipment and software available to the students. The program was able to increase enrollments by about 20 students, and also successfully recruited males (24 of the 65 students were males). The project is also meeting increased local labor market demands for employees trained in these areas.

#### **E. MARKETING AND DISTRIBUTIVE EDUCATION**

##### Business-Related Computer Training, Whitman-Hanson Regional High School

This project provided 39 students (including 17 males) in the Distributive Education program with the computer skills required by today's business world. Federal funds were used to purchase the needed equipment, including 3 microcomputers with printers, disk drives, and monitors. The Distributive Education store located at the school served as a training laboratory, where students reviewed practical experience using computer software for the financial aspects of retail businesses. These aspects included sales records, accounts receivable and payable, inventories, and cash flow.

This project filled a well-documented and urgent need for computer skills training for Distributive Education students. The school carefully reviewed the recommendations from the New England Association of Secondary Schools and Colleges, its own local advisory committee, and the latest research from educators in the field of Distributive Education, and concluded that these computer skills were vital for its students to be competitive in the business world.

This Business-Related Computer Training project proved to be successful in providing students with the needed computer skills. Many students who completed the program are pursuing additional education at schools such as Johnson and Wales and Bryant College. In addition, four students qualified for the National DECA Conference competitions in California.

##### Distributive Education III, Danvers Public Schools

This project provided 17 handicapped students in grades 11 and 12 with the special support services needed to succeed in the Distributive Education program at Danvers High School. A part-time para-professional provided assistance in the classroom and in the distributive education laboratory experiences.

The individual progress of students was closely monitored and charted. All students successfully demonstrated mastery of the basic competencies required in Distributive Education, at a higher level than was originally expected. In addition, student attitudes improved greatly, enhancing their educability, self esteem, and receptivity to the subject matter.

#### F. VOCATIONAL AGRICULTURE

##### Computer Assisted Operation, Norfolk County Agricultural

This project was designed to enable students in grade 12 to acquire proficiency in computer assisted agricultural operations. These operations included inventory, repair and maintenance control, livestock productivity, greenhouse and crop efficiency. Funds were used to purchase microcomputers for the school's Horticulture, Animal Science, and Agricultural Mechanics departments.

This project was developed in recognition of the newly-emerging role and importance of the computer in contemporary agricultural industries. The project was projected to serve 27 students, but 69 students actually participated, including 34 females. Students successfully used the computers for several agricultural operations, including the following. Students maintained Dairy Herd Improvement records and veterinary cost records; calculated livestock profitability; maintained sire and dam records and inventories of production machinery; maintained inventories of tree nursery stock, arboriculture equipment, pesticides, greenhouse supplies; and calculated cost-profit projections of floral arrangements.

##### Landscape Engineering, Essex Agricultural Technical Institute

This project provided state-of-the-art equipment and training to 131 postsecondary adults in landscape engineering. Federal funds were used to purchase 3 basic tractors with rototilling, front-end loading, and raking capabilities.

The project participants, including 63 females, successfully completed a field simulation project. This field simulation involved working with a hill, a trench, sand and rock piles to reshape the grounds. In completing this project, students acquired skill in performing tractor safety checks, preventative maintenance, and operating the tractors and accessories.



## 7. The Massachusetts Vocational Curriculum Resource Center

The following report reflects the activities of the Massachusetts Vocational Curriculum Resource Center between July 1, 1984 and June 30, 1985.

The Massachusetts Vocational Curriculum Resource Center made quality curriculum resources available to career, occupational and vocational educators in Massachusetts. Funded under a grant to Minuteman Regional Vocational School District, the Center operated a free-loan reference library. The Center also provided inservice training in the areas of curriculum design, development and modification. The staff of the Center included a director, a librarian, an inservice coordinator, and a support staff of three. The services of the Center were:

- o a lending library of print and audio-visual materials,
- o preview of software programs for the Apple microcomputer,
- o dissemination of selected Massachusetts developed materials,
- o workshops and inservice training sessions,
- o computerized data base searching, and
- o an information and referral service

Through the lending library the Center collects curriculum guides and support materials and makes them available for reference and loan to Massachusetts educators. The collection includes curriculum guides, outlines, teacher materials, student texts and workbooks, courses of study and, supplementary teaching aids to support curriculum in all vocational trade areas. The collection also contains materials on vocational education for special populations, bilingual vocational education, and sex equity in vocational education. Educators can borrow materials by visiting the Center or by requesting materials by telephone or by mail. Approximately 8,900 items were loaned out in Fiscal Year 1985 in response to 1,879 requests for materials.

The Center also maintained a collection of software for the Apple microcomputer. Over 220 programs were available for review and many of the titles were also checked out on loan to qualified Massachusetts Vocational Curriculum Resource Center users. This software collection was for review and evaluation purposes only, allowing teachers to try out a program before purchasing it for their school. Two Apple microcomputers were available at the Center.

The Massachusetts Vocational Curriculum Resource Center distributed on a cost-recovery basis sets of the inservice training package, "Making It Work". This three volume set was developed as part of the Division of Occupational Education's ongoing effort to expand opportunities in vocational education to priority populations. It was selected as a 1984 Exemplary Product by the Dissemination and Utilization Program of the National Center for Research in Vocational Education. The Center continues to receive requests for copies of the Project Scope (Support for Co-educational Occupational Programs in Education) booklets, produced at Shawsheen Valley Regional Vocational School, and as copies are available they are sent out free of charge. Other Massachusetts developed products, including the model Competency Based Vocational Education curriculum guides, are entered into the library collection and are available for loan.

The Center provided inservice workshops to vocational educators throughout the Commonwealth. Some workshops are offered at the request of local school districts and are usually conducted on the premises of the requesting school. These are held either after school or during release time. Special sessions are also offered on a statewide or regional basis so that teachers from more than one school district can attend. The purposes of Massachusetts Vocational Curriculum Resource Center workshops are to assist vocational education professionals with curriculum design, development, or modification, as well as provide opportunities to discuss current trends in vocational education. During the 1984-85 school year 59 workshops were conducted for 1,093 educators. The Center staff was also active in making presentations at local and national vocational conferences.

Participants in Center training sessions included teachers and other school personnel, teacher trainees, Department of corrections educational personnel, and staff of programs funded through the Job Training Partnership Act. Examples of training topics include:

- Occupational Safety and Health
- Competency Based Vocational Education
- Teacher Authoring (software)
- Modifying Curricula For Special Needs Students
- Teacher Expectations and Student Performance

A major training effort sponsored by the Center during Fiscal Year 1985 was a series on Occupational Safety and Health in Vocational Education. This 12 hour workshop was presented in October, 1984 at the Fire Fighting Academy in Stowe and in April, 1985 at Blue Hills Regional Vocational Technical School in Canton. The intent of the workshop was twofold: first, to inform vocational educators of available



curriculum in occupational safety and health; and second, to provide workshop participants with an awareness of an effective school safety program, including legislation which regulates safety and health on federal and state levels.

This two day workshop was led by Manuel Rainha, Department Head of Plumbing and Pipefitting and Safety Coordinator at the Northeast Metropolitan Regional Vocational Technical School in Wakefield. The featured publication was entitled: Safety and Health for Industrial/Vocational Educators, which was published by the National Institute for Occupational Safety and Health (NIOSH). Complimentary copies of this useful document were distributed to participants.

An important component of this safety workshop was a presentation on Massachusetts General Laws Chapter 111F, more commonly referred to as the "Right to Know Law". This law became effective on September 26, 1984 and requires that employers provide employees, upon request, information on hazardous substances used in the workplace. Vocational instructors who completed this 12 hour workshop could apply these hours to the Chapter 74 Professional Improvement Credit requirement. A total of 72 vocational educators completed the safety workshops.

Another special training effort of the Center was in the area of computer-assisted-drafting (CAD). On October 25, 1985 a total of 54 drafting instructors and vocational administrators attended an orientation to CAD workshop which was conducted by the Curriculum Center at the Central Massachusetts Regional Education Center. Four vendors of micro-computer driven systems demonstrated their firm's equipment and answered questions. This activity was followed by a discussion of the impact of CAD on vocational drafting programs. This discussion was led by a panel of instructors and industry representatives.

A second CAD workshop was presented to 35 vocational educators on May 14, 1985. This workshop, entitled "CAD Industry Trends and Implications for Vocational Education:", was held at the Raytheon Company's Bedford facility. Raytheon staff members demonstrated the operation of the Company's Computervision CAD system. This activity was followed with a lecture by a representative of the International Business Machines (IBM) Corporation on "Preparing Designers of the Future". A drafting instructor from Minuteman Regional Vocational-Technical School then presented a talk on the topic of "Constructing a CAD Workstation". This workshop was rounded out with a panel discussion on the subject of preparing students for careers in drafting.

The Vocational Curriculum Resource Center was the sponsor of a two day training session for 30 teachers who coordinate Vocational Industrial Clubs of America (VICA) student organizations. The presentors of this program were the authors of the Oklahoma State Department of Education's Management Guide for Vocational Industrial Clubs of America. These presentors were available to Massachusetts through the National Network for Curriculum Coordination in Vocational-Technical Education.

The Massachusetts Vocational Curriculum Resource Center has been actively involved in the development and promotion of the Principles of Technology project. The Center sponsored two project demonstration days in May, 1985 for a total of 48 vocational school staff. Additional orientation sessions for the project were organized by the Center and presented at Westfield State College and the South Berkshire Regional School in Great Barrington.

If material was not available with the Massachusetts Vocational Curriculum Resource Center collection to answer a request, the Center staff was able to use computerized searching techniques to locate additional sources of information. Searches were conducted of the major educational data bases using an Apple microcomputer to access Bibliographic Retrieval Services. The Center also maintained communications with other curriculum centers nationwide through electronic mail.

The Center maintains a file of other state and federal agencies that supply information and services to vocational educators. If a request can be better filled by contacting another agency this information is passed on to the requestor.

The Massachusetts Vocational Curriculum Resource Center published a quarterly newsletter, "Curriculum Currents". It was designed to inform readers about the materials and services of the Center and to provide a forum for sharing of information about programs and products within the state. "Curriculum Currents" was distributed to educators in vocational schools, comprehensive high schools and private or public vocational programs. It was also made available through the Department of Education's regional offices and the state's teacher training institutions. An annual book catalog listing all of the materials in the Center was also published and distributed. Subject bibliographies were developed and sent out upon request.

Policy decisions for the Center are made by an Executive Steering Committee consisting of Ronald Fitzgerald, Superintendent-Director of Minuteman; John McDonagh, Division of Occupational Education; and Carol Laughlin, Center Director. The Massachusetts Vocational curriculum Resource Center Advisory Committee meets three times a year



and provides guidance and direction for the Center staff and serves as a link to the schools. Advisory committee members are chosen by the steering committee and represent all facets of the Center's target population including business and industry.

#### 8. Concurrent Meeting of National Network For Curriculum Coordination in Vocational Technical Education

Massachusetts hosted the 1984 Concurrent Meeting of the National Network for Curriculum Coordination in Vocational-Technical Education. This important meeting was held in the Park Plaza Hotel in Boston between July 8 and July 12, 1984. Approximately 110 individuals represented the 50 states, seven trust territories, the United States Department of Education, the National Center for Research in Vocational-Technical Education, and several vocational curricula consortia.

Each of the six regional Curriculum Coordination Centers directed a full day of meetings for their member States on Monday, July 9, 1984. The first general session was held on Tuesday morning and the conference participants were welcomed to Massachusetts by Lieutenant Governor John Kerry who spoke about the federal role in education and the need to recognize the contributions of vocational education to economic development and defense preparedness. The opening session included a panel presentation on vocational education in the eyes of three participant groups which were represented by:

Education:	Charlotte Scott Superintendent-Director, Massachusetts Regional Vocational Technical School
Labor:	James Grande Chairman, State Apprenticeship Training Council
Business:	James Howell Vice President, Bank of Boston

The Conference also included vendor demonstrations, information and skill building workshops and a day of activities at Minuteman Regional Vocational-Technical School in Lexington. The Massachusetts Vocational Curriculum Resource Center is located in Minuteman Regional and as a co-sponsor of the Concurrent meeting, the Center was showcased for the nation's visitors.

This concurrent meeting in Boston in July, 1984 received the highest evaluation rating in the history of the meetings.

## 9. Principles of Technology

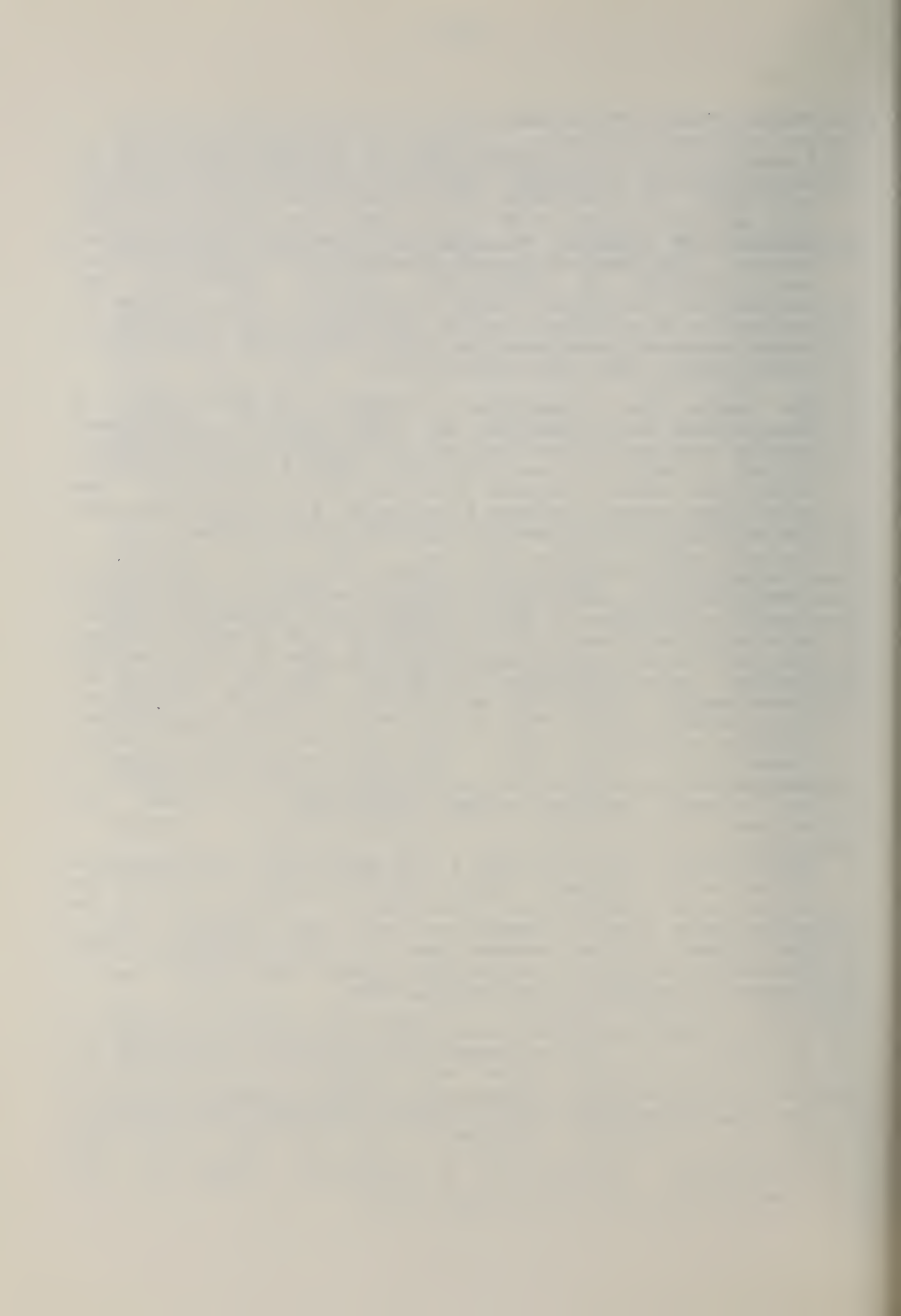
A consortium of 41 states and two Canadian provinces is supporting the development and field testing of a fourteen unit print and videotape curriculum which is designed for 11th and 12th grade students to learn the principles which underlie the operation of modern machinery and technological devices. The fourteen principles are woven through the four energy systems of electrical, fluidal, mechanical and thermal in the instructional materials. This program of studies is intended to provide a foundation of knowledge to assist students to advance in their career and to succeed in postsecondary technical education.

The Center for Occupational Research and Development in Waco, Texas is responsible for print material development and the Agency for Instructional Technology in Bloomington, Indiana is preparing the videotapes along a line of learning objectives which intersect with the print curriculum. The consortium representatives from member states and provinces are guiding the development and field test process.

A Request-For-Proposals was issued in April, 1984 to the Commonwealth's vocational-technical schools which operate complete programs of shop, related, and academic studies. As a result of this competitive application process, Assabet Valley Regional Vocational Technical School and Minuteman Regional Vocational-Technical School were selected as the Massachusetts pilot schools for Principles of Technology. Four teachers from these two schools attended the national training workshop for pilot school personnel held in Dallas, Texas in late June, 1984. The principal pilot teacher at each school is a physics teacher with an advanced degree in the sciences and a strong background in science and mathematics instruction in vocational-technical education.

Massachusetts has exhibited a high profile in the Principles of Technology Project. One of the pilot school teachers has served as the mathematics consultant to the project and the other pilot school teacher has been asked to author one of the units in the second year of the program. WANG Laboratories, Inc. of Lawrence has been one of the technology workplace 'reaction' sites.

The first seven modules were pilot tested with 31 students in Grade 11 at the two schools during school year 1984-85. Significant learning gains were registered by pre-test and post-test analysis. This applied physics and mathematics curriculum requires that students practice the following skills: reading, problem-solving, writing, listening, observation and analysis, critical thinking and organizing. Teamwork is an essential element for the completion of laboratory experiences.





- D. GOAL 4: TO PROMOTE TRAINING AND CAREER CHOICES; TO ENABLE VOCATIONAL GUIDANCE COUNSELORS TO PROVIDE SOUND COUNSELING TO A BROAD RANGE OF PERSONS; TO PROMOTE THE COORDINATION OF VOCATIONAL GUIDANCE AND COUNSELING WITH THE BUSINESSES, INDUSTRIES AND PROFESSIONS WHICH EMPLOY THE GRADUATES OF VOCATIONAL EDUCATION PROGRAMS; AND TO ENCOURAGE THE FORMATION OF PEER AND GROUP COUNSELING ACTIVITIES TO RETAIN STUDENTS ENROLLED IN PROGRAMS THAT ARE NONTRADITIONAL FOR THEIR SEX.

The Commonwealth of Massachusetts' commitment to provide support services that promote informed career choices is reflected in two major areas described in this section:

1. Guidance and Counseling
2. Student Organizations

#### 1. Guidance and Counseling

The Governor of Massachusetts declared the first week in November, 1984 Career Guidance Week. During this week special recognition and publicity were given to career guidance activities in local schools.

During the year vocational guidance counselors were invited to attend two conferences. One held on November 8 was planned jointly by the Department of Education, the Massachusetts Vocational Guidance Association, the Greater Boston Association for Counseling and Development and the Massachusetts School Counselors Association. Entitled Career Development, workshops were offered in such areas as: Massachusetts Occupational Information-Past, Present, and Future; World of Work Decisions Begin in Elementary Grades; and Improved Career Decision Making. The second conference, also held in November, was primarily for guidance directors from regional vocational technical high schools. These conferences were augmented by other statewide conferences and one regional conference which were broad based in direction and included career guidance workshops as well as other areas of guidance.

Federal funds were designated for programs aimed at improving guidance and counseling services in local schools. Staff at the state level provided technical assistance in proposal writing and monitored guidance programs after they were funded.

Four examples of guidance, counseling, and placement projects funded during fiscal year 1985 illustrate the services provided for students.



Employability Skills for the Developmentally Disadvantaged,  
Boston Public Schools

This project was designed to provide moderately to severely mentally handicapped students with employability skills, in the community setting. An employability skills trainer provided 59 students with direct supportive services, specialized training, and individual assistance in pre-employment, on-the-job or job modification competencies. These 44 competencies included identifying productive work habits, preparing a resume, preparing for an interview, interpreting payroll deductions, using the telephone correctly, demonstrating the ability to meet deadlines, requesting a letter of reference, and so on.

The project successfully aided many students in achieving job-related competencies. For example, 19 of 25 students reached criterion level performance on a test of Community Awareness; the remaining 6 students showed some progress on their individual skill charts. Also, all students increased their interaction time in the worksetting, and the work community has shown increased acceptance of these students.

Jobs for Bay State Graduates, Worcester Public Schools

This project provided 40 students in grade 12 with the skills, knowledge, and motivation to make the transition from school to work. The grant funded a full-time job specialist who trained students in constructing a resume, completing job application forms, completing job interviews, and developing a personal budget.

As a result of this project, students were able to master job attainment competencies; using the want ads, employment services, friends, relatives, and job specialists, students were able to understand all the avenues for job searches. Students also were able to identify occupational interests, aptitudes, and abilities and how these relate to appropriate occupations.

The training enabled students to successfully compete at a career conference in areas such as telephone techniques, employment seeking skills, and interviewing. And, at the completion of the program, over 90% of the students found employment.

Vocational Psychologist,      Smith Vocational Agricultural  
High School

This project provided handicapped students with in-depth, ongoing, individualized counseling, psychological assessments, and vocational and special services program coordination. A school psychologist provided these extra services to 14 students who needed intensive support to be able to make the most appropriate vocational choice and maintain that choice.

This project was successful in providing the necessary linkages between the Northampton Public Schools, Smith Vocational, social service agencies, and post-secondary institutions needed to serve these handicapped students. For example, during the past year the school psychologist attended Individualized Education Plan (IEP) meetings for all 14 students; gave psychological testing to 2 students; provided counseling for 10 students; and provided transitional services for 5 students.

Internship, Hampshire Educational Collaborative

This project provided collaborative member high school students in grades 11 and 12 with an opportunity to participate in an internship program. The students were identified as having a particular talent or interest in a given career and were placed in a supervised learning experience within this selected career. The project funded a part-time internship career guidance specialist who provided career counseling and on-site job monitoring to assure student success in their placements.

The internship project proved to be a popular one; the projected enrollment was 10, but the actual enrollment was 19. The internship career guidance specialist was able to arrange placements in all requested job areas, including banking, bakery, publishing, hospital management, custodial, and construction. The guidance specialist also successfully developed a competency based curriculum for each job site placement, as a joint venture with the employing supervisor. These curricula will be used in future job placements in each job area.

Both the students and employers had high praise for the program, and as a result of the training experiences many full-time job placements were made.

## 2. Student Organizations

Three student organizations were active in Massachusetts during the 1984-85 school year. This section describes the purposes and activities of these three student organizations:

- A. Distributive Education Clubs of America (DECA)
- B. Vocational Industrial Clubs of America (VICA)
- C. Future Farmers of America (FFA)



## A. Distributive Education Clubs of America

The Distributive Education Clubs of America (DECA) is a national vocational student organization for students planning a career in marketing, merchandising, management, retailing or distribution. DECA's two main objectives are to promote by every means possible understanding and appreciation for the responsibilities of citizenship in our free competitive enterprise system; and to further education in marketing, distribution, merchandising, retailing and management, which will contribute to occupational competence.

Through the Distributive Education Clubs of America, members develop leadership characteristics; an understanding of the free enterprise system; the vocational understandings necessary to compete in marketing, merchandising and management careers; self-confidence and self-esteem; the highest ethical standards in personal and business relationships; greater proficiency in communications; an appreciation of the responsibilities of citizenship; a healthy, career-oriented competitive spirit; and social, civic and business responsibility.

In fiscal year 1985, the Massachusetts Association of Distributive Education clubs of America was made up of 2,200 members in 70 schools. In March, the Massachusetts Distributive Education Clubs of America held its 26th Annual State Career Development Conference. Six hundred and fifty students qualifying through seven district conferences, participated in competitive activities which included problem solving, role playing, and written examinations. These activities were evaluated by many dedicated business people to determine the most outstanding students in each occupational category. Approximately 100 students were selected to represent Massachusetts at the National Distributive Education Clubs of America Career Development Conference in San Francisco, California. Nearly 6,000 members of the Distributive Education Clubs of America from the United States, Canada, Guam, Puerto Rico, the District of Columbia, and the Virgin Islands participated in this conference. Twenty-four students from Massachusetts received national recognition during this conference, more than in any previous year.



1984-85 MASSACHUSETTS DISTRIBUTIVE EDUCATION CLUBS OF AMERICA

ACTIVITIES/EVENTS

<u>Activity</u>	<u>Month</u>	<u>Location</u>
Officer Training and Leadership Development Conference	August	Boston
Western Area Fall State Leadership Conference	October	Worcester
Eastern Area Fall State Leadership Conference	November	Hyannis
North Atlantic Regional Conference	November	Pennsylvania
Seven District Conferences	February	Hyannis Foxboro Boston Randolph Lowell Andover Worcester
26th Annual State Career Development Conference	March	Springfield
Annual National Career Development Conference	April	San Francisco

**B. Vocational Industrial Clubs of America**

The Vocational Industrial Clubs of America (VICA) is a national student organization for students enrolled in trade, industrial, technical and health occupations programs.

Vocational Industrial Clubs of America's purpose is to complement the students' skill training with programs and activities designed to foster the development of such personal qualities as leadership, citizenship and character as well as the development of high standards of trade ethics, workmanship, scholarship and safety.

During the 1984-85 school year, Massachusetts VICA had 2,287 active members. Student members were given the opportunity to participate in several skill and leadership development conferences including: Fall Leadership Conferences, Industry Update Seminars, Workshops and the Skill Olympics.

Vocational Industrial Clubs of America Skill Olympics is a program of competitive events based on entry level job skills which exists for the purpose of recognizing vocational education students who excel in the occupational areas for which they are being trained.

The highlight of the year was the State Leadership Conference and Massachusetts Skill Olympics. Hosted by Minuteman Regional Vocational Technical School there were over 800 participants who competed in 38 skill events and 5 leadership events.

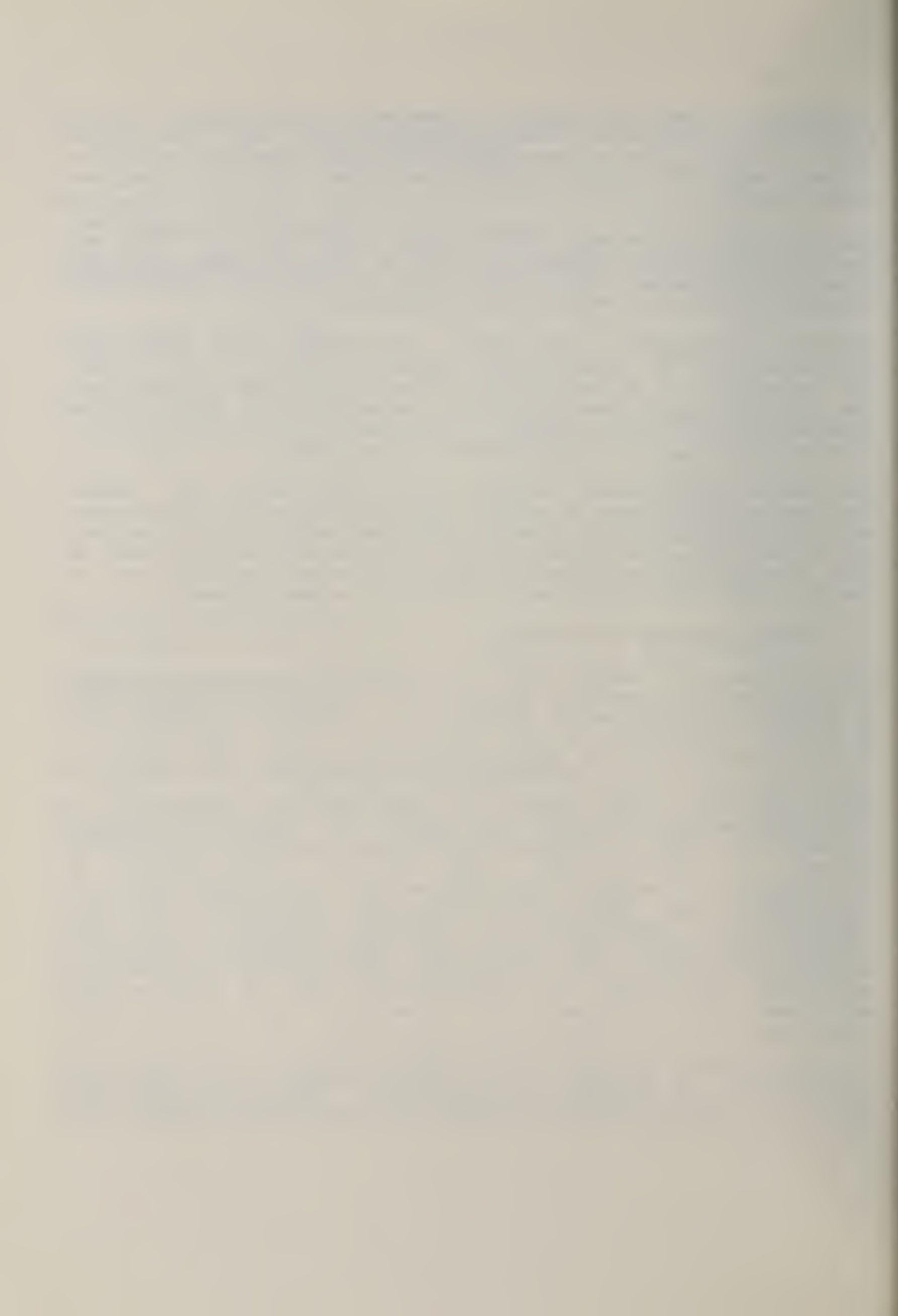
Industry involvement was again outstanding with over 270 representatives of Massachusetts industry taking an active part in the activities by serving as judges and technical committees who assumed the responsibility for selecting the skills to be judged, determining the format of the events and establishing the standards by which the contests are to be judged.

The State gold medal winners (43 individuals and teams) represented Massachusetts at the National Leadership Conference and United States Skill Olympics where Massachusetts contestants earned two gold, two silver and three bronze medalions as well as five certificates of "Honor" (top 10%), eight certificates of "Merit" (top 25%) and six certificates of accomplishment.

#### C. Future Farmers of America

Future Farmers of America (FFA) is a National Vocational Student Organization for students enrolled in agriculture/agribusiness programs. The purposes of the FFA are to develop competent and productive leadership in agriculture; to create and nurture a love of country life; to strengthen the confidence of students of vocational agriculture in themselves and their work; to create more interest in the choice of agricultural occupations; to encourage members in the development of individual farming programs and establishment in agricultural careers; to encourage members to improve their home and its surroundings; to participate in worthy undertakings for the improvement of surroundings; to participate in worthy undertakings for the improvement of agriculture; to develop character, train for useful citizenship, and foster patriotism; to participate in cooperative efforts; to encourage and practice thrift; to encourage improvement in scholarship; and to provide and encourage the development of organized rural recreational activities.

In Massachusetts during the 1984-85 school year there were over 1,000 members in 15 chapters. Members of the Massachusetts FFA Association participated in a variety of activities between July, 1984 and June, 1985.





**E. GOAL 5: TO DEVELOP AND IMPLEMENT VOCATIONAL PROGRAMS AND/OR SERVICES THAT PROMOTE ECONOMIC DEVELOPMENT WITHIN MASSACHUSETTS.**

Three aspects of the Commonwealth's efforts to promote economic development within Massachusetts through its vocational programs are described in this section:

1. Apprenticeship Training
2. Entrepreneurship
3. Exemplary and Innovative Projects

**1. Apprenticeship Training**

Apprenticeship Training is administered cooperatively between the Massachusetts Department of Labor and Industries, Division of Apprentice Training, and the Massachusetts Department of Education, Division of Occupational Education. Apprentices are recruited and indentured by the Department of Labor and Industries, Division of Apprentice Training. An indentured apprentice is a person who has entered into a written agreement with an employer or an association of employers. As of June 30, 1985, there were 5,834 apprentices active in the state.

More than half of the apprentices indentured in the state program are assigned to public schools for the required hours of related instruction by the staff of the Division of Occupational Education. Division staff approve grant applications and monitor programs.

During the 1984-85 school year, 3,354 apprentices received related instruction in 169 classes in 23 trades. Of this number, 12 percent were minorities and 4 percent were female. The Division awarded a total of \$400,000 in state funds to 23 public schools for instructional and clerical costs in these programs. The Boston Public Schools operated the largest program with 1,926 apprentices (19% minority) in 82 classes in 20 trades.

In addition to the programs supported with state funds, various unions, non-union trade associations, and commercial operators offer programs which prepare apprentices. In 1984-85, there were 2,480 indentured apprentices registered in these programs.



## 2. Entrepreneurship

A state Task force on Entrepreneurship was organized as one mechanism to promote economic development in Massachusetts. This effort was recommended by the Worcester City Manager with support from the Division of Occupational Education and the Minority Business Development Agency of the Department of Commerce and Development.

Massachusetts was selected by Oklahoma State University as one of twenty pilot states to participate in a national program to promote entrepreneurship education. Oklahoma State University will provide technical assistance to the Task Force and will collaborate in the presentation of a Statewide conference.

The goal of the Task Force on Entrepreneurship is to unite Massachusetts education business, industry, and government in an attempt to foster the development of training programs which will provide students and adults with the skills and knowledge required for success in private business ventures.

## 3. Exemplary and Innovative Projects

This section describes the program outcomes and disposition of exemplary and innovative projects for which fiscal year 1985 represented the final year of P.L. 94-482 funding.

School-to Work Transition Program, Attleboro, Fitchburg,  
Quincy, and Worcester Public Schools

The School-to-Work Transition Program is a local version of the national Jobs for Bay State Graduates program, and was designed to alleviate unemployment among high-risk youth. Job Specialists provided job-seeking and job retention skills to 200 non-college-bound seniors. Federal funds were used to hire one of the four Regional Directors and 9 of the 39 Job Specialists; state and local funds were used to support the remaining positions.

The Job Specialists worked with the high school Advisory Committees in several areas, including: identifying the target students (the lower quartile who had no immediate career goals and who were most likely to become unemployed after graduation), assessing student needs, visiting parents, instruction students, developing entry-level job opportunities, and providing follow-up services to student participants and their employers. The Job Specialists used a combination of classroom instruction and the activities of the related student organization (Bay State Careers Association) to help students master 33 job competencies, including career development, job-seeking, job-holding skills, work attitudes, and organizational commitment.

A total of 80 males and 120 females participated in the

program. These 200 students included 35 Hispanics, 34 Blacks and 9 Asians, with 67 disadvantaged, 26 limited English proficient, and 3 handicapped students.

As a result of the program, 93% of the participants achieved a positive outcome; 79% were placed in unsubsidized jobs. In addition, the Career Development Conferences in which students participated were an overwhelming success.

Skills Training Alternative in Vocational Education(STAVE II)  
Greater Lowell Regional Vocational School

The Skills Training Alternative in Vocational Education project (STAVE II) was designed to accommodate those students who could not be served in vocational programs because all available openings had been filled. The school actively recruits disadvantaged, minority, and handicapped students from area junior and senior high schools, but often the number of interested students exceeds the number of openings and these students must be wait-listed.

In order to allow these wait-listed students to start vocational training (and thus to maintain their interest until the school had regular full-time program openings available in the following school year), Greater Lowell arranged an afternoon program under Project STAVE II. The project contracted for two buses to transport these students from their own schools after regular hours three afternoons per week. The project also extended the use of facilities and trained staff.

Each student was assigned to a support teacher and underwent a vocational assessment and pre-selected tour of eight program areas to explore, including at least one shop not traditional for the student's sex. Additionally, resource and support staff provided small group tutorials in math and in occupational survival skills such as health care, job search techniques, interpersonal relationships and how to apply for a job. The support teacher also provided other assistance as needed to special needs students.

Shop teachers provided 200 hours (7.5 hours per week over three afternoons) in eight vocational areas: Food Technology, Business Technology, Auto/Power Mechanics, Carpentry, Home Management, Sheet Metal Fabrication, Welding and Cosmetology. The shop teachers carefully rated each individual on a comprehensive evaluation instrument, assisted by support-staff.

A total of 106 students participated in the project, including 40 handicapped, 39 disadvantaged, 7 limited English proficient, 36 female, 18 Hispanic, and 7 Black students.



All project goals were accomplished. Waiting applicants remained interested and new applications kept coming in each year despite the waiting list. In fact, 60 per cent of Project STAVE II participants, having determined their interests and capabilities, enrolled in full-time vocational education programs for the following year.

Assistance Program in Education, North Shore Regional  
Vocational School

This project was designed to improve the services provided to handicapped students, especially in the areas of assessment and placement in vocational programs. Federal funds were used to hire a Generic Consulting Special Needs Teacher and an aide, and to purchase equipment for a vocational assessment center.

Prior to the implementation of this project, teachers lacked the resources and time to adequately assess and place handicapped students in the vocational programs appropriate for their interests and aptitudes. Yet these special needs students comprised 31% of the 1984 enrollment for the school, and were at high-risk for dropping out.

The newly-established vocational assessment center enabled trained staff members to assess the skill levels and proficiencies of handicapped students, in order to make valid program placements and modifications. Both incoming students and those students already enrolled who were having difficulty in shop were assessed, using the Singer Vocational Evaluation System. The Singer System features self-contained work stations furnished with specific equipment, tools and supplied needed to complete a series of work tasks. Performance on these tasks enables the staff to identify the vocational abilities, interests, and work behavior of these handicapped students.

The project represents a model for evaluating, orienting, placing and helping handicapped students to progress in their chosen vocational areas. The project provided a range of diagnostic, tutoring, support, and evaluative services.

Staff concerned with Individual Education Plans (IEP) were taught new strategies for applying an improved picture of a student's interests and strengths to the design of individual IEP's. The vocational assessment center served 167 referrals as prescribed in their IEP's. In addition, the project staff have developed an Activities Handbook for Occupational Teachers, advised teachers as to "what to do and how to do it," for individual children and how to deal with mainstreamed special needs children. A further result has been a strong placement and support system in vocational as well as in academic remedial education.





**F. GOAL 6: TO INCREASE THE EFFECTIVENESS OF LOCAL ADVISORY COUNCILS**

Local advisory councils are intended to serve a vital function in the planning, operation, and evaluation of vocational programs in the Commonwealth. Membership for local advisory councils was recruited from local business, labor, and industry. Advisory councils met to ensure that the curriculum and equipment were up-to-date and students were being effectively trained for employment. As a result of this liaison, many programs received donations of time and equipment.

The following project descriptions illustrate the variety of ways in which advisory councils have been involved in federally funded programs and how many programs were improved as result of this involvement:

Banking and Finance, Assabet Valley Regional Vocational School

This program was designed to serve 68 students in grades 10-12. The primary focus of the program was to prepare students for entry level jobs in the banking and finance field. An additional goal was to increase the number of male students who enter the banking field.

The program advisory committee was instrumental during both the planning and implementation of the banking program. For example, members of the banking community who served on the advisory committee aggressively recommended that the school operate a branch bank on site. These members also assisted in a survey of area banks to assess the need for such a program. The advisory committee has also been actively involved in the areas of curriculum and job placement during the past year.

Cable TV III Industry for the 80's, Lawrence Public Schools

This project provided the skills training necessary for employment in the Cable TV industry to 23 students in grades 10-12.

From its inception, the project has had excellent support and input from the advisory committee. One committee member is the station manager of the local TV station. His service has been invaluable in the areas of curriculum development and providing the technical expertise of his employers (who met with the students to explain job opportunities and the required skills for successful employment). The committee also assisted with the development of a TV studio located in the school, and wired the building to allow the class to do live cable broadcasts.

The extensive involvement of the advisory committee has produced some important program outcomes. Of the first graduating class of 3 students, one student was hired to work in the local cable TV station as a camera technician; one bilingual student was hired for sales and marketing to reach the predominantly Hispanic population in the community; a third student was hired to install cable. In addition because of the initial success of the project, the school continues to fund the program.

#### Machine Shop III, Haverhill Public Schools

This project expanded the machine technology skills for 11 students in grades 11 and 12. Funds were used to purchase state-of-the-art equipment, including a lathe, collets, magnetic sine plate, and high speed steel machine reamers.

The advisory committee has had a strong role in the success of this program. For example, area employers recommended the conversion of a metals shop into a bona fide Machine Shop program, and they have provided ongoing assistance in structuring this program. The advisory committee has also been active in recruiting female students.

#### Nutrition Learning Center, Framingham Public Schools

The Nutrition Learning Center was designed to provide all Home Economics students with interesting instructional materials on nutrition education. The Nutrition Learning Center served as both a classroom for students enrolled in the nutrition course at North High School and as a resource center for all other students enrolled in Home Economics courses at both the high school and middle schools in Framingham.

The advisory committee for this project includes parents, day care providers, and representatives from the health industry. This committee has been extensively involved in the program, especially in the following areas:

- o coordinating nutrition education for all grade levels,
- o coordinating the program with other school disciplines,
- o providing guidelines for student involvement in disseminating information, and
- o recruiting male students for the program

Electronic Equipment Replacement, Bay Path Regional  
Vocational High  
School

This project helped 29 electronics students in grades 10-12 develop competencies in the use of state-of-the-art electronics equipment. Funds were used to replace obsolete equipment, including ten oscilloscopes, one curve tracer, one test fixture, and one transistor adapter socket.

The advisory committee has provided valuable input in the areas of equipment, future job trends, and the curriculum.

- o In the area of equipment, the committee recommended that the school introduce computer-aided design and layout to support the needs of local industries.
- o In assessing future job trends, the advisory committee suggested that the lines of communication be opened with area fiber optics industries in anticipation of a demand in that technology in the next five years.
- o In the area of curriculum and instruction, the committee recommended that vacuum tube theory be eliminated from the curriculum and the self study method be phased out because of the maturity level of the students.



Graphics Production for Special Needs, Boston Public Schools

This project provided vocational training in graphics production in a regular shop setting for 16 substantially separate special needs students. Students received skills training in bindery, photocopying, and offset press printing. In addition, students were given support in improving behavior and attendance so that they would be able to function in a mainstream classroom setting.

The advisory committee for this program has been very active in a wide variety of areas, including the following:

- o Committee members have helped in job placement.
- o The committee sponsored a Job Fair.
- o Members have served as guest speakers for the program.
- o Members have sponsored field trips for students.
- o \$300 in textbooks for the photography course were donated.
- o Travel expenses for a student to attend a conference were donated.

Support Services for Handicapped Culinary Arts Students, Pittsfield Public Schools

This project provided support services to 10 handicapped students enrolled in the Culinary Arts Program at Pittsfield High School. Students were instructed in the safe use of equipment, and at the end of the year all students were able to read recipes, prepare ingredients, and bake selected items which were later distributed to the elderly in the area.

This project received wide support from the advisory committee. For example, one advisory committee member provided a restaurant for a student run gourmet dinner/fund raiser. And, through the efforts of advisory committee members, the number of these handicapped students placed in cooperative work experiences has increased about 50%.

Project Retool II, Peabody Public Schools

This project enabled 43 Automotive Repair students in grades 10-12 to develop the skills required to perform Massachusetts Auto Inspections. Federal funds were used to purchase a gas analyzer and wheel balancer to augment existing equipment.

The correct choice of equipment and understanding of state requirements and current technology were crucial aspects of this project. and ones in which the advisory committee participated extensively. This advisory committee was instrumental in diagnosing the need to update the Automotive Shop, participated in the selection of the appropriate equipment, and provided technical assistance to shop instructors.

Adult Word Processing, Smith Vocational Agricultural High School

This project, developed in response to labor market projections, offered 20 unemployed adults skills training for 20 hours a week in word processing. Students were also provided instruction in business mathematics and English, as well as the services of a vocational guidance counselor and job placement assistance.

The project advisory committee played an important role in both the selection of equipment and the placement of students in jobs. The members of the committee actively surveyed their respective areas in identifying the most current and effective word processing software used in business today. This committee input has resulted in a program that is well-equipped to provide skills training to meet the most recent trends in business.

The advisory committee members also worked closely with the school's co-op coordinator to place graduates and help identify possible placements in area businesses. These efforts have resulted in an average of 71% of students being placed in training-related jobs immediately upon graduation. This placement rate increases to well over 90% in training-related jobs a few months after students graduate from the program.

Graphic Arts, Hampshire Educational Collaborative

This project involved an upgrading of the equipment and program of a Graphic Arts Shop in the Hampshire Educational Collaborative District. Twelve students in grades 11 and 12 were provided with 2 3/4 hours per day training in graphic arts.

The advisory committee provided the impetus for the needed changes in equipment. The committee recommended that even though the graphic arts program was covering the major skill areas of typography, layout, paste up, typesetting and printing, additional equipment was needed to update and augment the program. Specifically, the committee recommended the purchase of a compugraphic machine and related computer equipment to modernize the typesetting process. Early indications are that training on this new compugraphic equipment has been beneficial; three students have been placed in part-time jobs working with similar equipment.

